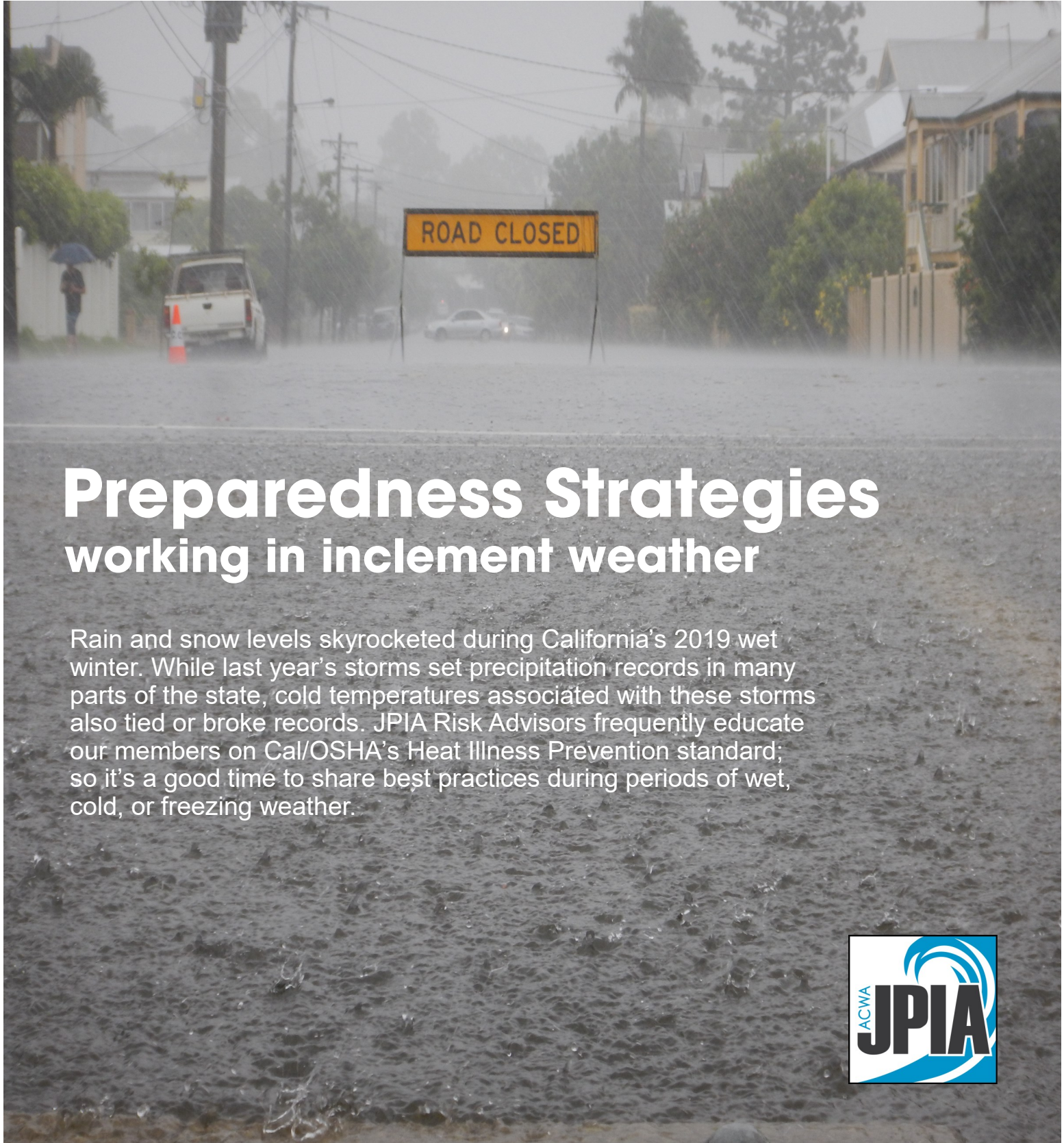


# JPIASource

Fall 2019

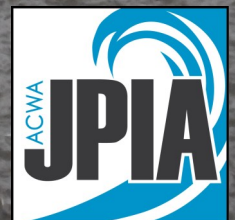
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ACWA JPIA Risk Management for the Water Industry



## Preparedness Strategies working in inclement weather

Rain and snow levels skyrocketed during California's 2019 wet winter. While last year's storms set precipitation records in many parts of the state, cold temperatures associated with these storms also tied or broke records. JPIA Risk Advisors frequently educate our members on Cal/OSHA's Heat Illness Prevention standard; so it's a good time to share best practices during periods of wet, cold, or freezing weather.



## 1 Vehicle Maintenance-Tires

Tires kept in good working condition increases passenger safety. According to the National Highway Traffic Safety Administration (NHTSA) there were 738 deaths associated with tire related crashes in 2017. Improper tire maintenance includes incorrect pressures in the tire, lack of tire rotation and decreased tire tread. During poor weather conditions less tire tread can lead to hydroplaning, longer stopping distances, and vehicle accidents. A good resource on tire safety is located on NHTSA's [TireWise](#) webpage.

To help navigate slick road conditions, the American Automobile Association (AAA) recommends drivers keep the following in mind:

- Do not use cruise control, slow down, and avoid hard braking and sharp turns.
- Stay alert and be prepared to respond quickly if the tires lose traction with the road.
- If possible, follow in the tire tracks of other cars where water has been partially cleared away.
- Increase following distances to provide extra room should a sudden stop become necessary.
- If the car begins to hydroplane, ease off the accelerator to slow down. Don't jam on the brakes because this could cause a skid and loss of vehicle control. If the rear of the car begins to slide sideways, steer smoothly in the direction the vehicle should be going until traction is regained.

**Additional information on worn tires can be reviewed at the [AAA webpage](#).**



## 2 Jobsite

Generators, pumps, motors, air compressors, tools, equipment, and electrical connections may not work properly amid inclement weather. Equipment may need longer warm up periods. Be sure to follow the manufacturer's instructions, and never use equipment that is not functioning properly. Always read the operator's manual for each piece of equipment to ensure it is designed for cold or wet conditions. Power tool manufacturers frequently list general rules or tips for proper performance of equipment. Again, follow the warm up period and cold weather tips provided in the operator's manual.

Cold weather can effect diesel fuel. Gelling can be a problem because diesel fuel freezes at a much higher temperature than most other fuels. Standard diesel can freeze at any temperature below 32 degrees Fahrenheit, which will inevitably lead to gelling and/or clogged fuel pipelines. The thicker fuel clogs the filters and eventually does not flow at all, which means you cannot start your vehicle or equipment.

Several best practices include:

- Avoid storing vehicles and generators outside in cold temperatures. Use a garage that is heated, or some type of climate-controlled storage area for critical vehicles and equipment.
- Adding a cold weather fuel additive can prevent gelling when outside temperatures drop below 40 degrees Fahrenheit. Check with your fuel supplier and equipment manufacturers for fuel additive recommendations.

## 3 Work Zone Traffic Safety

Assess the need for additional speed reduction methods in traffic control plans during periods of wet weather. Frequently monitor the setup of temporary traffic control (TTC) work zones during severe weather to ensure TTC devices are effective, clearly visible, clean, and in compliance with the TTC plan. A JPIA "best practice" is for workers to wear high visibility apparel [High Visibility Apparel and Gloves](#) meeting ANSI Class 3 requirements.



## 4 Workplace

Wet weather increases slip, trip, and fall (STF) incidences; however, they are preventable. To eliminate your chance of a STF, avoid distracted walking and slow down when walking during inclement weather. To reduce STF in the workplace best practices include:

- Wearing proper footwear with good traction. Consider providing workers that walk in snow or icy conditions with [Pull On Ice Cleats](#) for additional traction.
- Marking/highlighting step edges and transition areas (changes in elevations).
  - ♦ Using anti-skid paint, slip-resistant coatings and strips.
- Placing non-slip surfaces on floors that may or will be wet.
- Confirming that stairs have proper handrails, treads and risers are maintained, and treads have a slip-resistant surface.
- Ensuring good housekeeping by cleaning up floors and working surfaces promptly and frequently when they become wet.
- Providing warning signs for wet floor areas.

References and source content throughout:

OSHA: [https://www.osha.gov/dts/weather/winter\\_weather/windchill.html](https://www.osha.gov/dts/weather/winter_weather/windchill.html)

NOISH: <https://www.cdc.gov/niosh/topics/coldstress/default.html>

Working During Inclement Weather Resources  
Attach 1 – CPWR Cold Weather Hazard Alert

### Review and Download Preparedness Strategies for Working in Inclement Weather Resources

The Center for Construction Research and Training/  
Working in Cold Weather Webpage  
<https://www.cpwr.com/research/working-in-cold-weather>

The Center for Construction Research and Training/  
Cold Weather Toolbox  
[https://www.cpwr.com/sites/default/files/publications/10\\_Cold\\_Weather.pdf](https://www.cpwr.com/sites/default/files/publications/10_Cold_Weather.pdf)

OSHA Protecting Workers from Cold Stress Quick Card  
<https://www.osha.gov/Publications/OSHA3156.pdf>

NIOSH Fast Facts Protecting Yourself from Cold Stress  
<https://www.cdc.gov/niosh/docs/2010-115/pdfs/2010-115.pdf>

National Highway Traffic Safety Administration: Tires  
<https://www.nhtsa.gov/equipment/tires>

AAA Worn Tires Increase Wet Road Stopping Distances  
<https://www.aaa.com/autorepair/articles/worn-tires-increase-wet-road-stopping-distances>

### JPIASource

*These samples are provided for informational purposes only and should **not** be relied on as legal advice. The sample documents are never a substitute to legal advice. The samples provided cannot and do not address the unique facts and circumstances of your specific situation and should not be relied on as a substitute for legal advice for your particular situation. We make no claims, promises, or guarantees about the accuracy, completeness, timeliness, or adequacy of any information contained in these sample forms and should be used as a source of general information. Although every effort is made to present current and accurate information, courts issue opinions every day that may have an impact on your specific situation. Therefore, you should not use the samples without first obtaining the advice of legal counsel. Use of these sample documents is voluntary, and reliance on it should only be undertaken after an independent review of its accuracy, completeness, applicability, and timeliness.*

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A great resource on preventing cold related injury or illness is OSHA's *Protecting Workers from Cold Stress Quick Card*. It's important to know while Cal/OSHA does not have a standard on cold stress prevention, employers must maintain an effective Injury Illness Prevention Program (IIPP). This link to a [Cold Weather Checklist](#) can assist you with hazard identification, employee training, and protective clothing requirements.



## 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:



U.S. Department of Labor

[www.osha.gov](http://www.osha.gov) (800) 321-OSHA (6742)

OSHA 3156-02R 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:



U.S. Department of Labor

[www.osha.gov](http://www.osha.gov) (800) 321-OSHA (6742)



# HAZARD ALERT

CPWR [●]  
THE CENTER FOR CONSTRUCTION  
RESEARCH AND TRAINING

## WORKING IN COLD WEATHER A CHILLING DANGER



### When the temperature drops...

During the winter, construction workers face a natural hazard – cold weather. The colder it gets, the more energy you need to use to stay warm. When it is also windy and raining or snowing your body uses even more energy and loses heat faster. Working in cold or freezing temperatures for a long time can lead to health problems.



### What are the health risks and symptoms?

Health Risk:	Symptoms:
Hypothermia	Your temperature drops to 95°F or lower (a normal temperature is 98.6°F). You: <ul style="list-style-type: none"><li>▶ Shiver and stomp your feet to stay warm</li><li>▶ Feel unusually tired</li><li>▶ Lose coordination</li><li>▶ Become confused</li><li>▶ Lose consciousness</li></ul>
Frostbite	Your skin freezes and becomes: <ul style="list-style-type: none"><li>▶ Red with gray/white patches</li><li>▶ Numb – you cannot feel the area</li><li>▶ Blistered (in serious cases)</li></ul>
Trench Foot	Your foot is: <ul style="list-style-type: none"><li>▶ Tingly/itchy</li><li>▶ Red and blotchy</li><li>▶ Swollen and/or numb – you cannot feel your foot</li></ul>

SOURCES: OSHA Cold Stress Guide <https://www.osha.gov/SLTC/emergencypreparedness/guides/cold.html>  
NIOSH Fast Facts: Protecting Yourself from Cold Stress <https://www.cdc.gov/niosh/docs/2010-115/pdfs/2010-115.pdf>

#### If you think you are in danger:

Contact your supervisor. Contact your union.  
Call OSHA 1-800-321-6742

**Find out more about construction hazards.**  
To receive copies of this Hazard Alert and cards on other topics, call 301-578-8500 or visit [www.cpwr.com](http://www.cpwr.com)

### Protect Yourself In Three Steps:

## 1 Dress for the weather...

OSHA recommends wearing:<sup>1</sup>

- ▶ Inner and outer layers that will keep you dry;
- ▶ A hat or hood that covers your ears, and a knit mask (if needed);
- ▶ Waterproof and insulated gloves; and
- ▶ Waterproof and insulated boots.

Carry extra clothes in case the ones you are wearing get wet.

<sup>1</sup>OSHA Winter Weather Preparedness [https://www.osha.gov/dts/weather/winter\\_weather/beprepared.html](https://www.osha.gov/dts/weather/winter_weather/beprepared.html)



## 2 Drink the right liquids...

To avoid becoming dehydrated, drink plenty of warm, sweet liquids, such as:

- ▶ Sports drinks
- ▶ Soups
- ▶ Sugar water

Avoid liquids with caffeine, such as:

- ▶ Coffee
- ▶ Tea
- ▶ Soda
- ▶ Hot chocolate

Do not drink alcohol. Caffeine and alcohol cause your body to lose heat.

## 3 Be proactive and alert...

When working in a cold environment for a long period of time:

- ▶ Learn the signs and symptoms of cold weather illnesses and injuries.
- ▶ Take frequent breaks in a warm area.
- ▶ Work in pairs so you and your coworker can spot the danger signs.
- ▶ Notify your supervisor and get medical help immediately if you or another worker has symptoms of hypothermia or another cold-related illness or injury.
- ▶ Remember – you are at a higher risk if you take certain medications, are in poor physical condition, or suffer from illnesses such as diabetes, hypertension, or cardiovascular disease.

### Learn more about how to work safely in cold weather.

Visit the Occupational Safety and Health Administration (OSHA):



Visit the National Institute for Occupational Safety and Health (NIOSH):

