



Cold Weather Tips For Yacht Clubs and Marine

Winter weather can cause damage and disruption to your business. Extreme cold temperatures, snow, sleet, and freezing rain can create safety hazards for your workplace and workers. Chubb's marine risk management specialists provide these tips to help identify those areas that may need special attention this winter.

Preparing For Cold Weather

- Remove docks and structures from the water where practical to do so.
- Raft together any floating docks and structures and/or secure them with slack in lines to allow some movement with the ice.
 - Docks and gangways rigidly connected to the shoreline may buckle when the basin ice sheet expands toward the shoreline.
- Inventory, inspect, repair/replace, and test de-icing apparatus well before needed.
- Ensure electrical supply is adequate and provided where needed.
- Adhere to bubbler manufacturer limitations on line length, air pressure, and volume and size compressor accordingly.

Hazards of freezing weather include, but are not limited to:

- Ice damage to docks, floating vessels, vessels in storage, and buildings
- Infrastructure damage
- Freezing liquids and water pipes
- Personnel safety
- Slip and fall hazards

Maintaining a Safe Facility

- Place thermometers in strategic areas of the facility and monitor temperatures in the critical areas that are often subject to colder temperatures.
- Ensure vents and roof penetrations, such as skylights, are maintained and weather-tight.
- Examine and maintain heating systems. Generally, temperatures should be kept above 40°F (4°C) subject to specific use of the facility and the equipment and stores therein.
- Ensure there is an adequate fuel supply/reserve.
- Add heat tracing tape to the piping of the protective systems susceptible to freezing.
- Monitor fire protection systems, making sure valves and hydrants are accessible.
- Clear the roof of any snow.
- Instruct employees on how to recognize a deflecting roof. Take action if anyone notices:
 - Low-hanging lights
 - Lights flickering on and off due to stretched wires
 - Water infiltration where the roof meets the wall
 - Peeling paint from the underside of the roof deck
 - Broken bolts or screws that hold the roof together
 - Roof drains raised above the roof
 - Any utilities experiencing minor interruptions

Best Practices For De-Icing Marine Facility Waterways

Along with the weather, freezing and icing can be inevitable at your facility. You have control over how you go about de-icing the waterways at your marine facility. Considerations regarding the two types of systems you can deploy when de-icing are as follows:

Circulators or electric impeller de-icers

- Circulators have a simple installation, are portable and adjustable with various mounting options, and can melt already-formed ice.
- The depth of water should be a minimum of 6 feet.
- Ensure proper installation, as splashing may worsen ice conditions. Installation may also impede boat traffic.

Aeration or bubbler systems

- A bubbler system, also known as a diffuser or aerator, is a network of air pipes placed on the sea floor or lake bed in a strategic pattern. Air supplied by a compressor flows through the pipes and is released underwater, which draws warm water to the surface, maintaining an ice-free zone.
- Bubbler systems work best to maintain a large area of open water, do not require submerged electrical equipment, and are low maintenance.
- Water depth is best at 10 feet to 30 feet.

Enforcing a Cold Weather Plan

It's important to be proactive when it comes to cold weather preparedness. Creating a written cold weather action plan or checklist will help you ensure you've covered all the bases before closing the premises for the season. A few key things to consider or include in your plan are:

- Historical weather and ice conditions
- Compilation of lessons learned
- Tips about what worked and what didn't last season
- Diagram of the facility showing optimal deployment of de-icing equipment and location of all vital resources
- Inventory of de-icing equipment and other resources
- Snow and ice removal plan for docks and building roof and overhangs to prevent excessive loading and improve safety
- Pre-season readiness timeline and checklist
- Weather monitoring and triggers for action items
- Cold weather safety precautions and policies

Winterizing Boats

Ensuring boats are properly prepared for winter storage is an important marine practice. In an ideal world, the boats would be covered and placed in a climate-controlled building, but these resources are not always available.

Marina and boatyard management should insist that boat owners winterize their boats (this can be an added revenue stream for you). The best practices to do so are as follows:

- Ensure boat winterization or boat movement into heated storage is carried out before the earliest possible hard freeze date.
- Do not allow boat owners to install their shrink wrap, and ensure any contractor being used has provided evidence of liability insurance coverage.
- Ensure batteries have been disconnected or are in the off position.
- Do not rely on drainage methods for winterizing engine blocks and other systems, as water can sometimes remain trapped. Use the antifreeze method.
- Ensure vessel drain plugs are removed, and you have a reminder system to verify reinstallation for the following spring launch.
- When placing boats for winter storage near one another, create fire breaks between sets of vessels and maintain fire lanes if a fire department response is required.

Contact Us

For more information about preparing for and handling the cold, contact your local **Chubb risk engineer** or visit www.chubb.com/engineering.

Contact the Burgee Program Team at Risk Strategies
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Learn More about the Burgee Program for Yacht Clubs & Sailing Organizations at www.risk-strategies.com/burgeeprogram.