

# Welcome to the Hard Hat Training Series!



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Welcome to the Hard Hat Training series. Today, we will talk about general cold-water survival. In the event of submersion in cold water, a basic knowledge and understanding could be the difference between escape and serious bodily harm or even death.



Cold water risks include immersion into both cold coastal and cold inland waters. Even when the weather is warm, water temperatures can still be frigidly cold. It is estimated that 10 people die each day from unintentional drowning, making it the fifth-leading cause of accidental deaths in the United States alone. In Canada, a little more than 500 people drown each year. Consider the following true story.

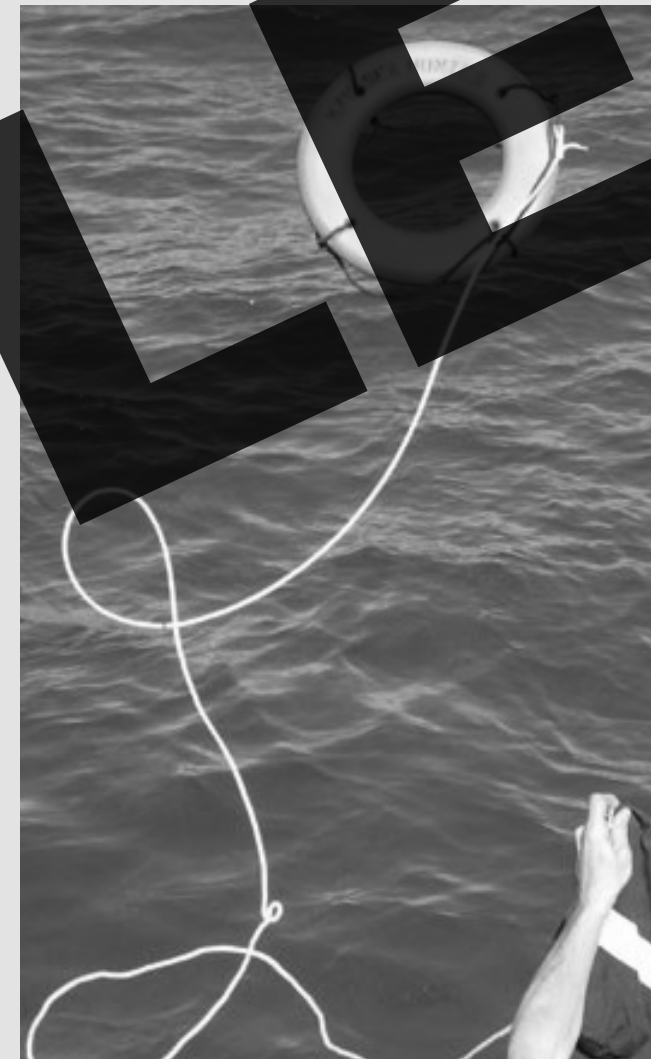
Off the north coast of British Columbia, a crab fishing boat was working on a cold November night. Crewmembers were re-baiting crab pots by pulling them onto the vessel on the starboard side, leaving the buoy line in the water. As they were rebaiting a pot, the vessel took a sudden port turn.





The buoy line caught in the ship's propeller, and the crab trap was pulled off the trap table. When a newer crewmember named Frank saw the crab trap moving, he reached out and grabbed it. In the process, he was pulled overboard as the trap slid over the side of the ship. Once he hit the water, Frank let go of the crab pot and stayed floating on the surface.

Acting quickly, the rest of the crew sounded the Man Overboard alarm. They threw lines and floatation devices down to their coworker, all of which landed well within Frank's reach. However, he didn't grab onto them; in fact, his coworkers would later recall that he didn't even try to grasp or hold a line or floatation device.



The crew followed their Man Overboard procedures and were able to pull Frank back onboard after about 10 minutes. He was unconscious and non-responsive. Although they tried, they couldn't revive Frank, and he was declared dead.

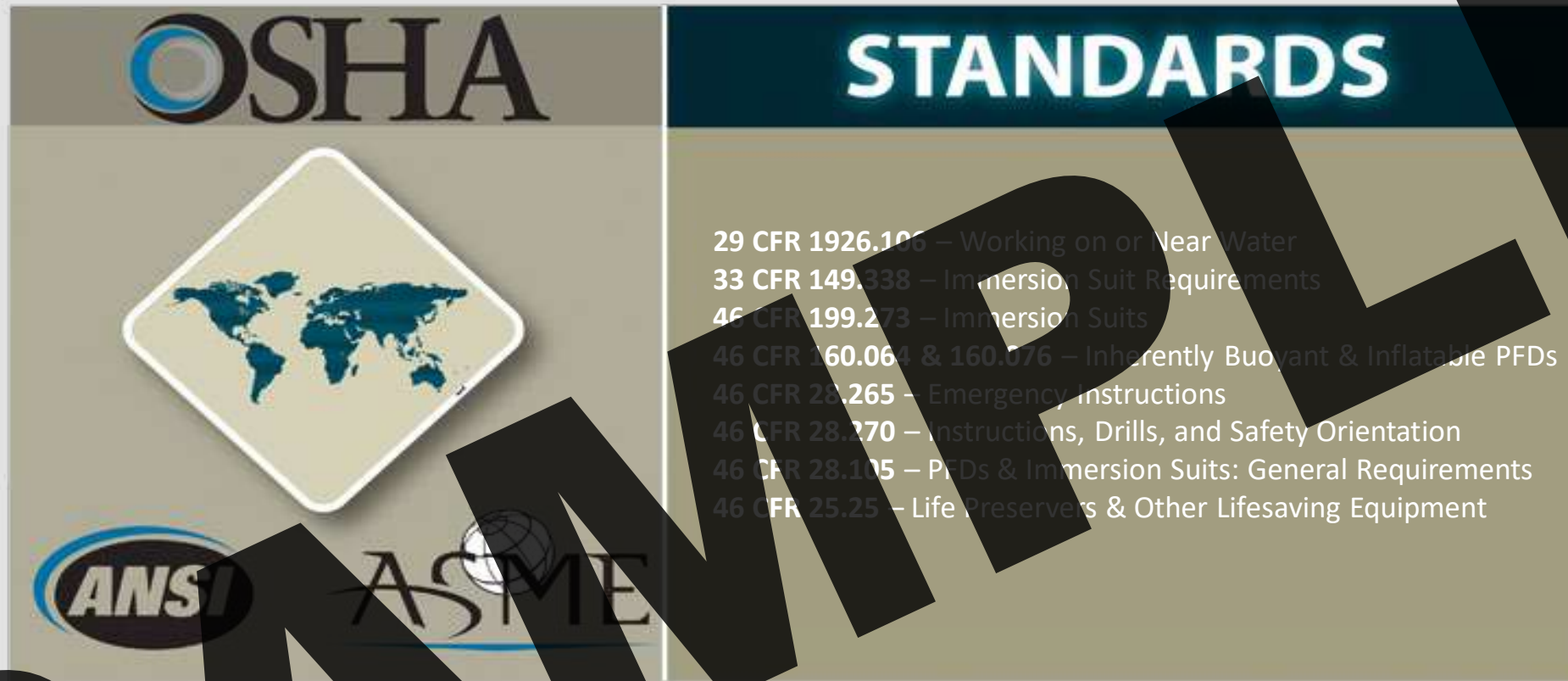
An investigation into the matter found that Frank and his crewmates weren't wearing lifejackets. This was likely the reason Frank couldn't keep his nose and mouth above the 48° F (9° C) water. Although he was a strong swimmer, Frank drowned in 10 short minutes in the frigid water.



How could a young, strong man die so quickly? We will illustrate the dangers of cold-water immersion throughout this training. By the time we revisit this tragic story at the end of the training, you will have the knowledge to answer these questions, as well as feel prepared if a similar situation were to arise on your vessel.

We'll discuss the hazards associated with cold water immersion, as well as some safety equipment that you should use when working on or near cold water. Then, we'll teach you some survival techniques that could save your life if you fall in cold water.





While there are no specific standards for cold water survival, these standards are applicable to working conditions that put you at risk for going into cold water. Many states, provinces, municipalities, and companies may have additional standards, as do some industries. We have provided these as a guide, but it's your responsibility to know all federal, local, and company policies that apply to your job site.

## Training & Drills

Employers must provide training for crew members aboard commercial vessels. You should be taught how to identify, prevent, and respond to hazards specific to your ship and the job at hand. This includes instructions on how to don and care for PFDs and immersion suits.



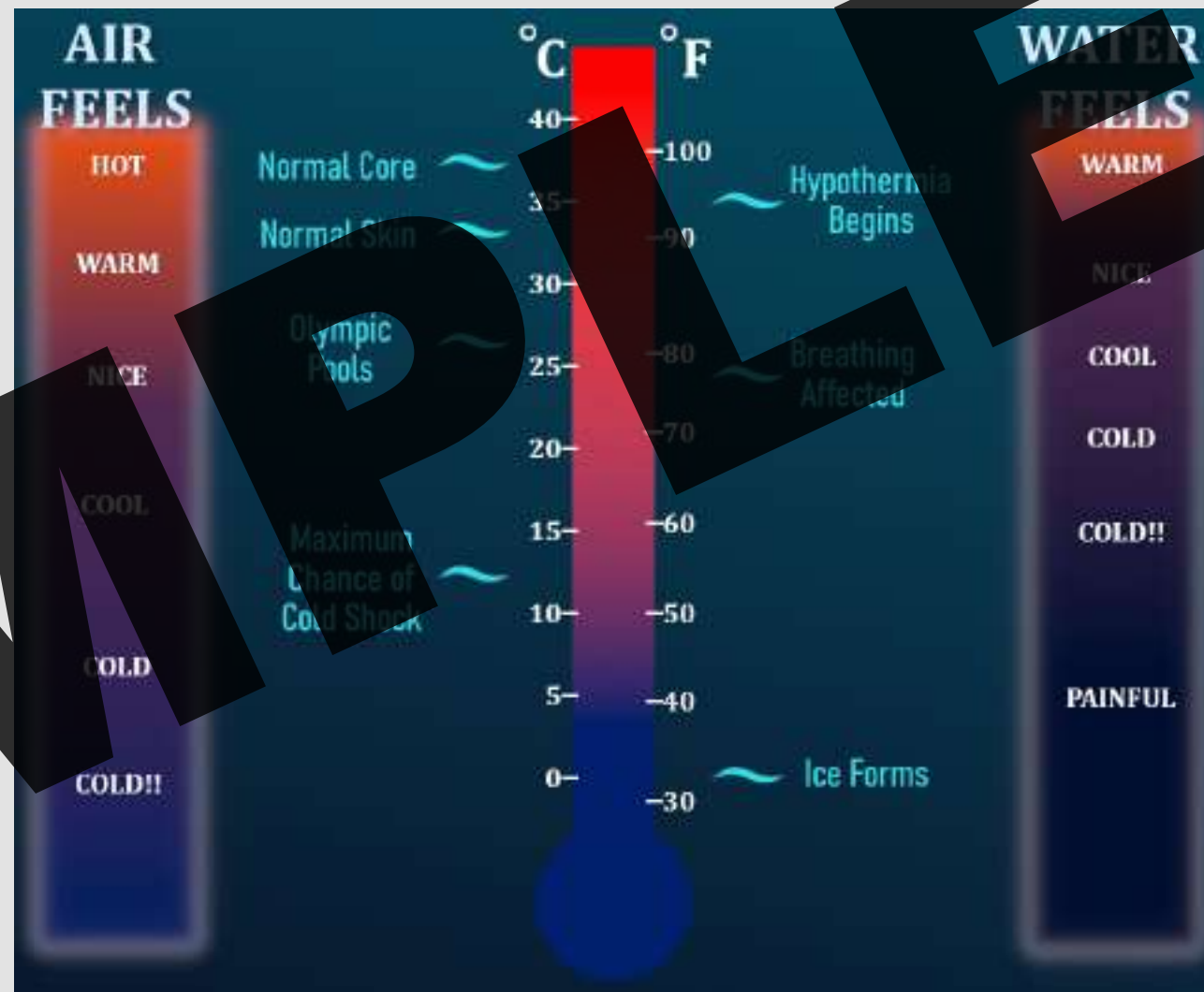
Your employer must conduct drills at least once a month. During a drill, crewmembers must conduct themselves as if they were truly in the midst of an emergency. This is when you will don and test your immersion suit, which we'll discuss in detail later.





## What is Cold Water?

Cold water is defined as any water that has a temperature of 77° F (25° C) or less. To help put those numbers into perspective, the average water temperature of Lake Michigan is 61.9° F (16.6° C); the average temperature of the Bering Seas is 41° F (5° C). The average temperature off the northern coast of B.C., where Frank died, is about 60° F (16° C).



# COLD WATER CAN KILL YOU

1 MINUTE COLD SHOCK

10 MINUTES INCAPACITATION

1 HOUR HYPOTHERMIA

Cold water carries the body's heat away 25 times faster than air of the same temperature. That means you begin losing heat as soon as you are immersed in cold water. While your individual reaction may vary depending on what you are wearing, the amount of body fat you have, and how active you are, the steady and rapid drop of your body's core temperature is inevitable if you are in cold water.



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As Frank's story illustrates, cold water changes how your body functions, even to the point where you cannot help yourself out of the water by simply grasping a lifeline. The goal for today's training, then, is to teach you what to expect when you become submerged in cold water and what to do in order to increase your odds of survival.



# Cold Water Immersion

# SAMPLE



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