NCDMF 2026 Safety Week

Water Survival and Man Overboard

DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

Rev Jan 2026

NCDMF COLD WEATHER POLICY

General Safety Policies (GN–2)

Safe Operating Procedures: **Cold Weather Safety**

Hazard Review

Over exposure Inclement Weather Conditions Hypothermia
Slips, Trips, and Falls

1. Whenever possible, schedule coldest part of work for the warmest part of the day.
2. Reorganize work procedures to minimize sitting still or standing for long periods of time.
3. All employees who have not been working in the cold environment must adjust to the cold before expecting to be fully productive (5-7 days).
4. Be sure to drink plenty of warm, sweet, caffeine-free, non-alcoholic drinks or soup.
5. Take regular rest breaks.
6. Wear the proper clothing in layers. Cotton, polypropylene or lightweight wool should be next to the skin. Outer garments should be of waterproof, wind resistant material like nylon, or as determined by supervisor.
7. A good example of layering would be a wool shirt or sweater over a cotton one and then an outer nylon jacket
8. Employees should be sure to wear a hat or other head covering as up to 40% of heat loss can occur when the head is exposed.
9. Wear waterproof boots with two pairs of socks. The inner pair should be cotton and the outer pair wool.
10. Employees should wear gloves for light to moderate work anytime the air temperature falls below 40 degrees F.
11. Keep as dry as possible and have extra clothing readily available to change into if you do get wet.
12. Remember! The frequency of accidents is higher in cold weather. Make allowances for your slowed reflexes and numbed hands when doing your job.
13. Prevent lengthy exposure in cold weather, because hypothermia is a major cause of death.
14. Be aware of ice on sidewalks, pavement, and in shaded areas around buildings. Avoid areas where accumulated ice may cause a slip and/or fall.
15. All non-enforcement personnel working on the water from November 1 through April 30 will be issued on type III USCG approved float coat with extended hypothermia protections (beavertail) and/or floatation coveralls.
16. Employees working during November through April in open boats will be issued floatation coveralls, if requested. Other employees already issued float coats may option for floatation coveralls at the time of float coat replacement. Employees issued floatation coveralls may retain float coats.
17. All personnel regularly working on vessels operating beyond 3 nm from shore and during the period November 1 through April 30 will be issued a USCG approved immersion (survival) suit. It is the employee's responsibility to have the immersion suit on board while the vessel is operating beyond 3nm during November through April.
18. All enforcement personnel working on the water from November 1 through April 30 will be issued a type III USCG approved float coat and/or floatation coveralls.

Related SOPs / Documents:

GN-21: Personal Protective Equipment
GN-22: Personal Protective Equipment – Law Enforcement
LE-9: Marine Vessel Operation (Patrol)
SP-8: Marine Vessel – Power Boat
SP-9: Marine Vessel – Research Boat (Certified & Non Certified)

Effective Date:

Versions	Revisions
April 2004	Original effective date
April 2008	Reviewed and revised.
July 1, 2010	Reviewed; Revised to new format.

NCDMF HOT WEATHER POLICY

General Safety Policies (GN–13)

Safe Operating Procedures: **Hot Weather Safety**

Hazard Review

Sun Exposure | Heat Exhaustion | Drinking Water

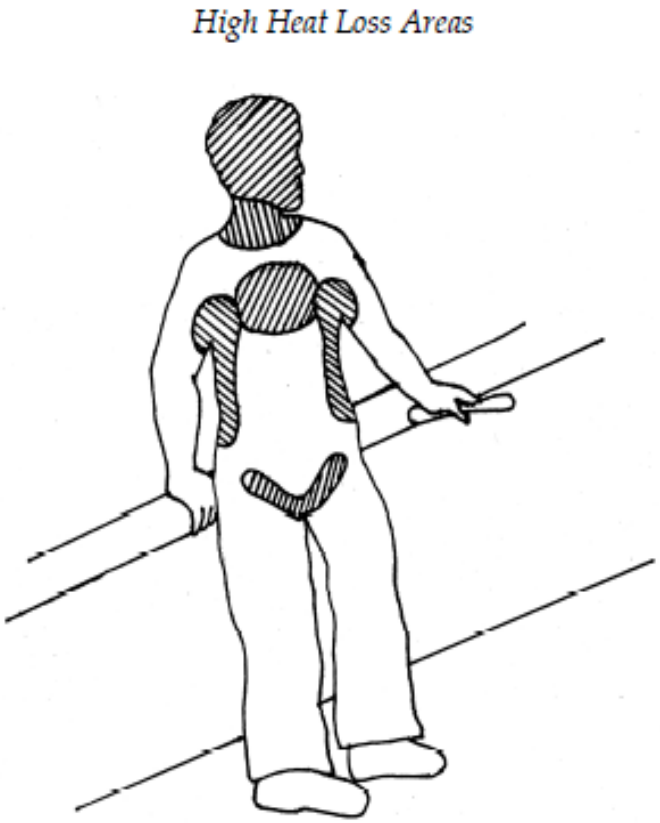
1. Supervisors should schedule heaviest work during the cooler morning hours whenever possible.
2. All employees who have not been working in a hot environment must adjust to the heat before expecting to be fully productive (5-7 days).
3. Employees should drink 2 cups of water before beginning work. Additional 2-4 cups should be taken during each hour of work.
4. Employees must begin drinking fluids before they feel thirsty to avoid heat related problems.
5. Employees should not take salt tablets but should get extra salt through their normal meals.
6. Light meals are better than fatty foods as they are easier on the digestive system.
7. Frequent, short breaks in the shade are better than infrequent, long ones.
8. Employees should wear the proper clothing such as loosely woven cotton shirts, sunglasses, sweatbands, and the proper footwear.
9. Supervisors should ensure that each crew has adequate water and that employees are allowed enough break time for drinking purposes.
10. Employees must remember that a lack of sleep, obesity, alcohol use, and similar factors can increase the risk of heat related injuries.
11. Utilize sun screen when exposed to the sun or its rays.
12. Where practical and available, use temporary shading structures to minimize exposure time.

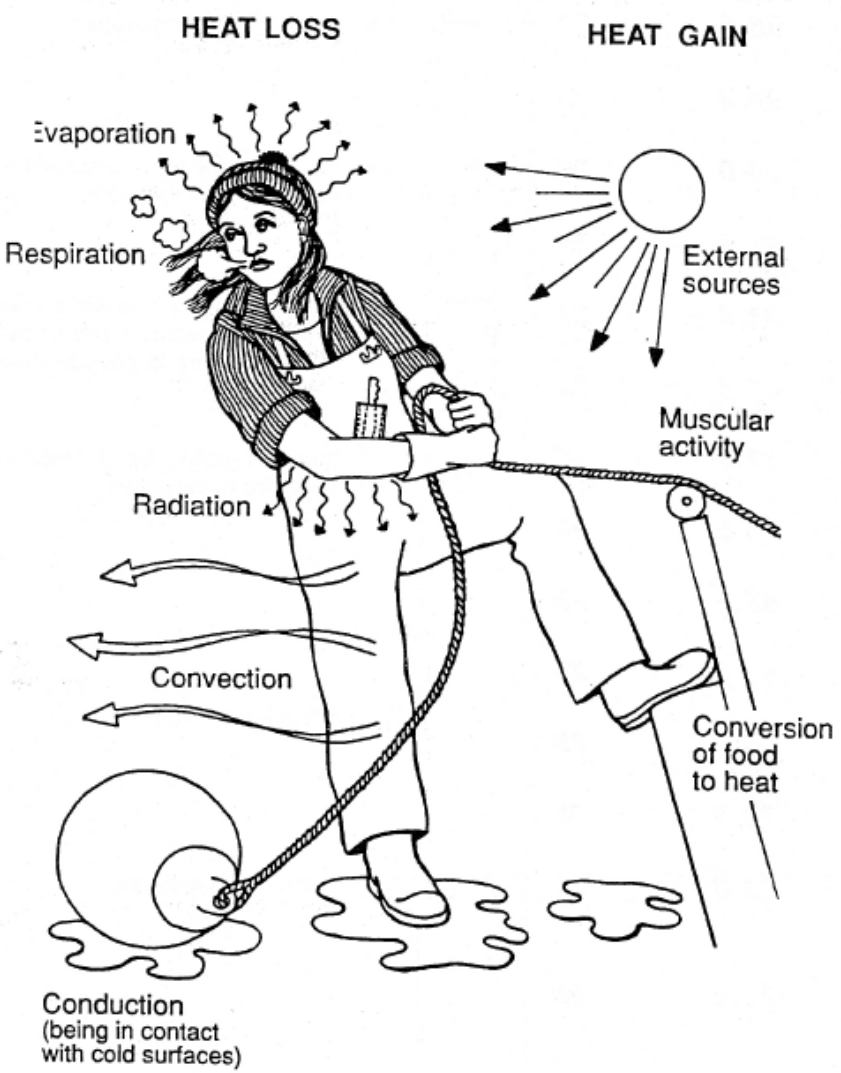
Hypothermia

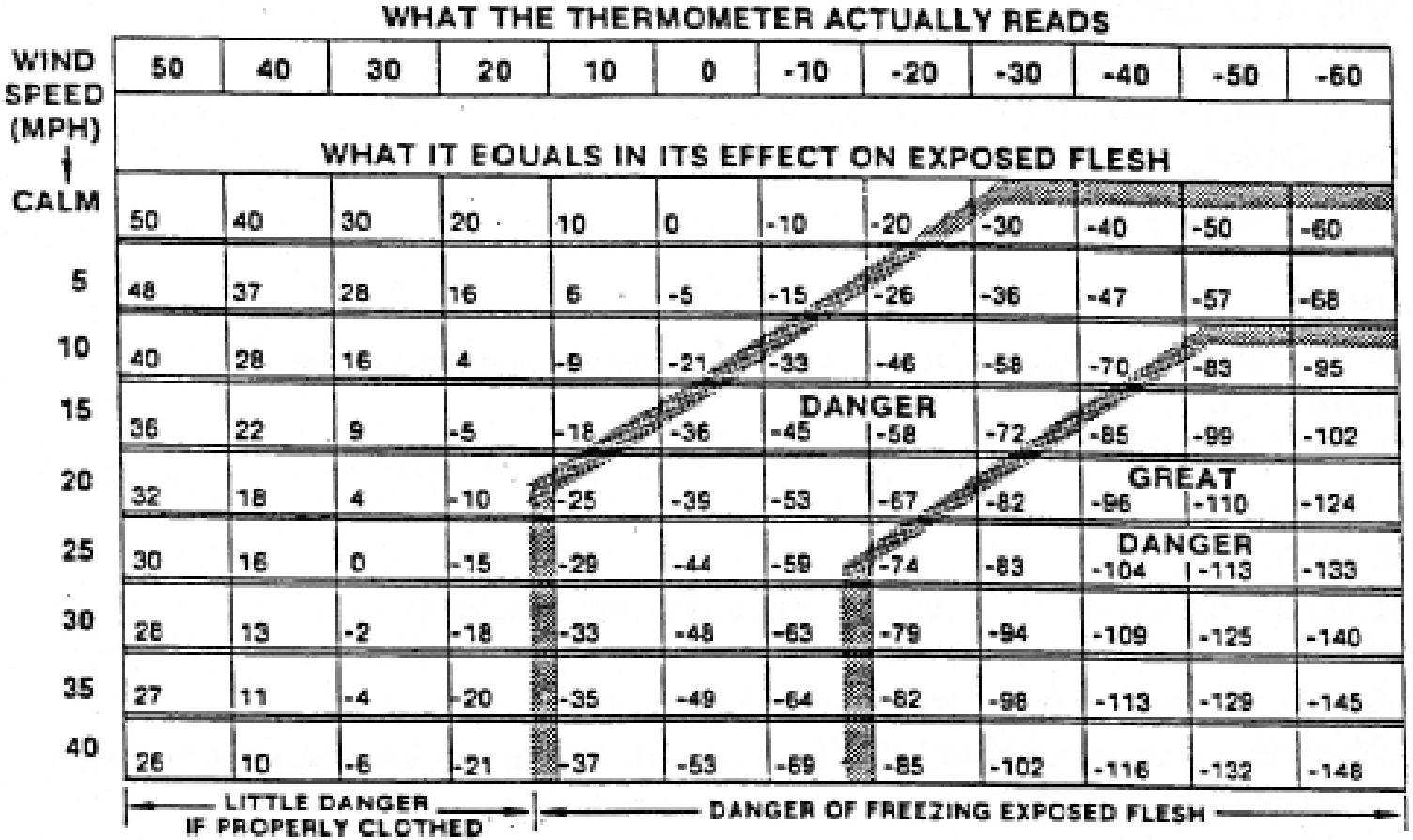
- Hypothermia is possible in water less than 91°F and in air less than 80°F
- Conduction in water is 25x greater than still air
- Wet clothes lose up to 90% of insulative value (wool is an exception)
- Other considerations
  - Weather and Sea conditions
  - Age
  - Body fat
- Basic Treatment Overview – remove victim from cold, warm them up, emergency action if needed

Heat Loss Areas

- Chest
- Head
- Neck
- Underarms
- Groin

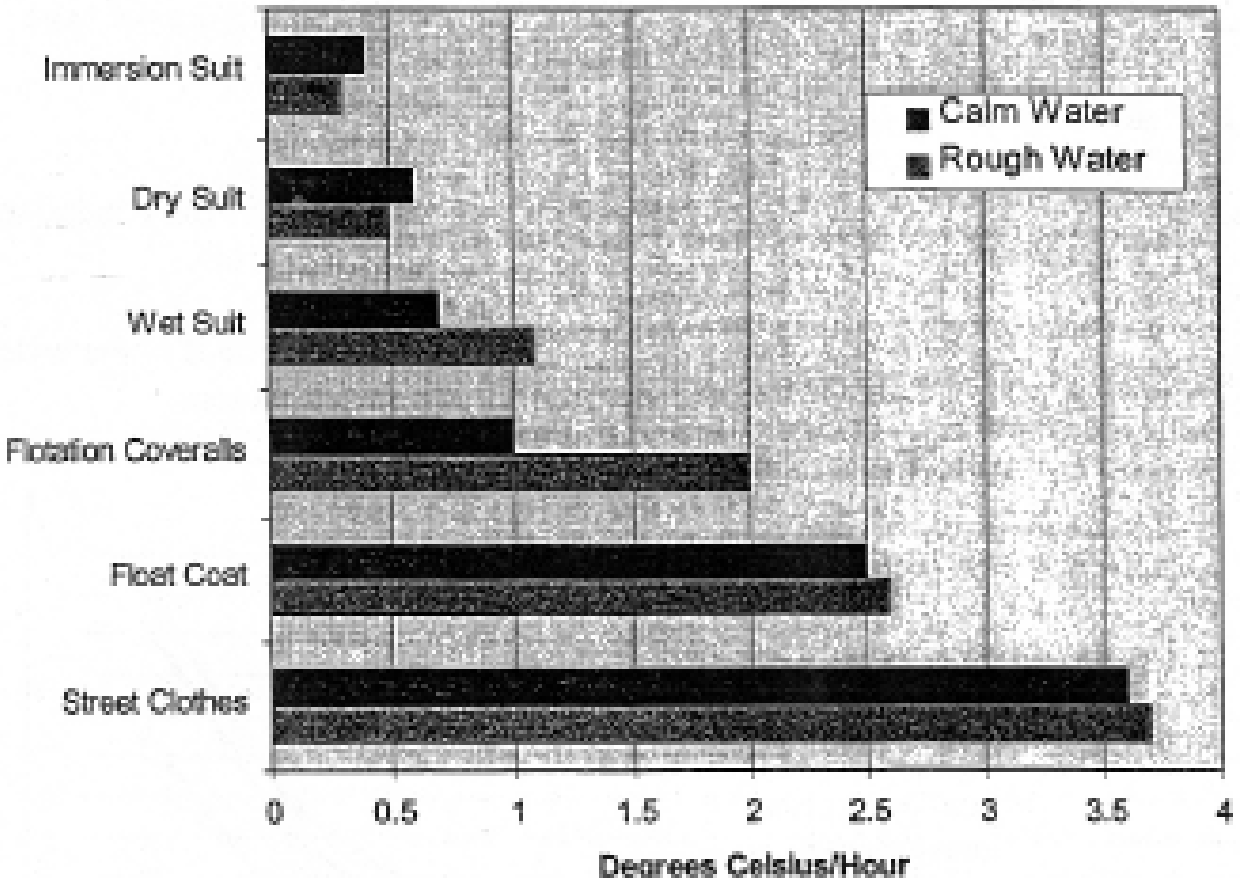



HEAT LOSS
HEAT GAIN
Evaporation
Respiration
External sources
Muscular activity
Radiation
Convection
Conversion of food to heat
Conduction
(being in contact with cold surfaces)

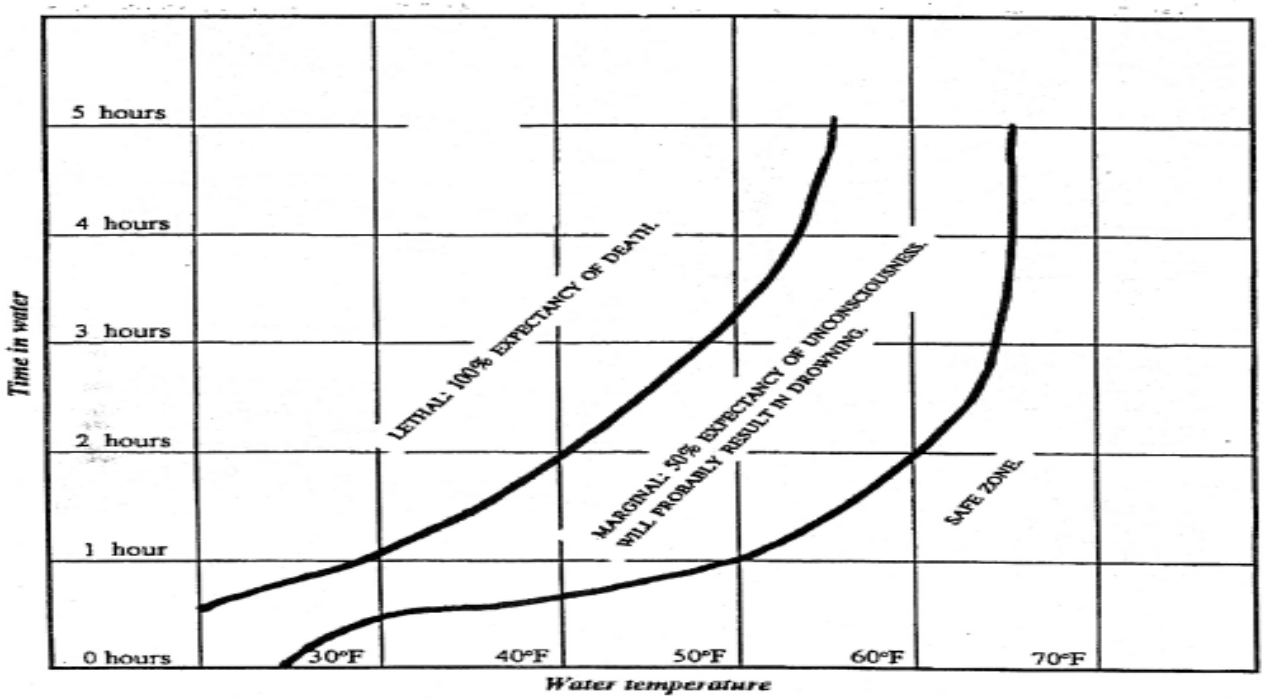

WHAT THE THERMOMETER ACTUALLY READS
WIND SPEED (MPH)
CALM
50 40 30 20 10 0 -10 -20 -30 -40 -50 -60
WHAT IT EQUALS IN ITS EFFECT ON EXPOSED FLESH
50 40 30 20 10 0 -10 -20 -30 -40 -50 -60
5 48 37 28 16 6 -5 -15 -26 -36 -47 -57 -68
10 40 28 16 4 -9 -21 -33 -46 -58 -70 -83 -95
15 36 22 9 -5 -18 -36 -45 -58 -72 -85 -99 -102
20 32 18 4 -10 -25 -39 -53 -67 -82 -96 -110 -124
25 30 16 0 -15 -29 -44 -59 -74 -83 -104 -113 -133
30 28 13 -2 -18 -33 -48 -63 -79 -94 -109 -125 -140
35 27 11 -4 -20 -35 -49 -64 -82 -98 -113 -129 -145
40 26 10 -6 -21 -37 -53 -69 -85 -102 -116 -132 -148
DANGER
GREAT DANGER
LITTLE DANGER IF PROPERLY CLOTHED
DANGER OF FREEZING EXPOSED FLESH

Cold Water Survival

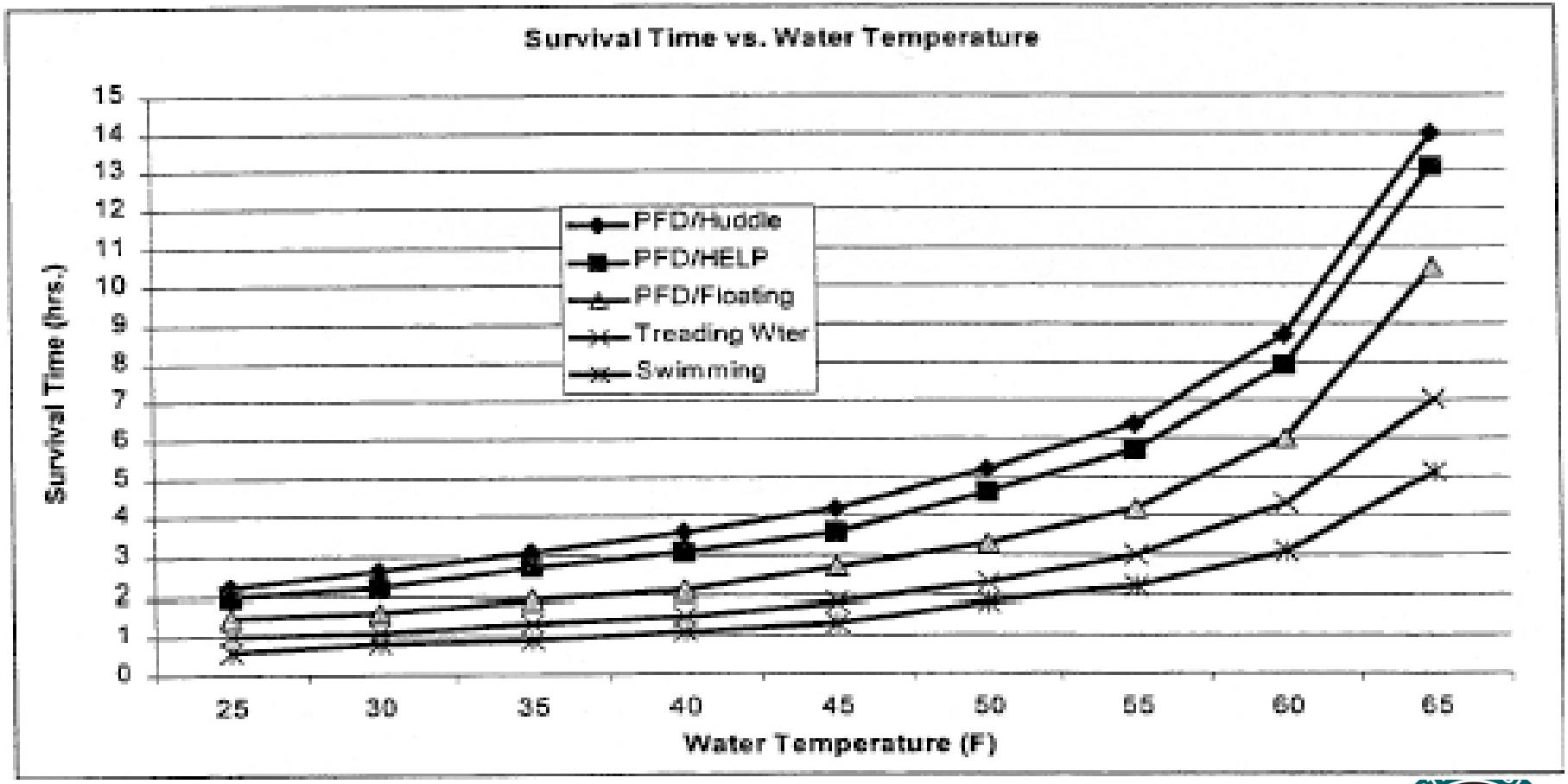
Cooling Rates



Life Expectancy Following Cold Water Immersion In water without an exposure suit but still wearing a personal flotation device.



Note: This chart is meant for use as an approximation. Response to submersion in cold water varies greatly due to percentage of body fat, physical fitness and other variables.


Survival Time vs. Water Temperature
Survival Time (hrs.)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
25
30
35
40
45
50
55
60
65
Water Temperature (F)
PFD/Huddle
PFD/HELP
PFD/Floating
Treading Wter
Swimming

Man Overboard

WEAR PFD AT ALL TIMES

YOUR PFD CAN SAVE YOUR LIFE

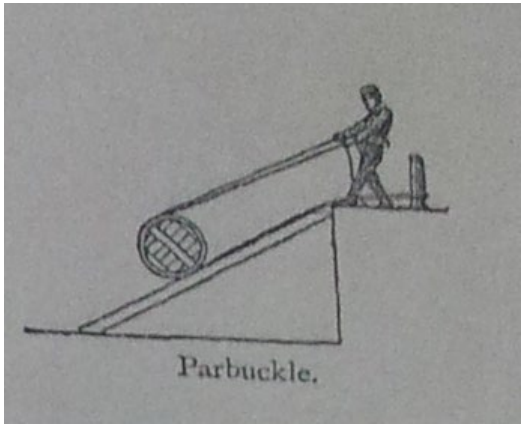
- 57% of MOB fatalities happen when the fall is unwitnessed (CDC 2023)
- 30% of all commercial fishing deaths are related to MOB (2000 – 2019) (CDC 2023)
- 266 commercial fishing MOB fatalities 2000 – 2019 100% of these deaths were not wearing PFD (CDC 2023)
- 47% of commercial fishing deaths were related to vessel sinking (2000 – 2019) (CDC 2023)
- 80% - 90% of boat-related drowning victims were not wearing life jackets, depending on year (CDC, 2022)

Recovering MOB

1. Signal/Notification – alert crew, mark spot with GPS/buoy
2. Communication
    1. Specifically assign a crew member to be the spotter to POINT at MOB at all times
    2. MAYDAY Coast Guard if MOB is in immediate danger (ex. Has been in cold water extended period of time; badly injured; location/time of incident of MOB is unknown)
3. Locate and carefully approach MOB while crew prepares gear or rescue swimmer for retrieval of MOB
4. Deploy the appropriate rescue device (life ring, rope, ladder, life raft, rescue swimmer, etc) and rescue MOB
5. Assess victim and begin appropriate medical/emergency action plan

Rope Techniques

- Over-Shoulder Toss
- Parbuckle
- Stirrup Ladder (Butterfly Loop)
- Cleat-Ladder Loop



Survival tactics

JUMPING WITH PFD

Feet should be close together.

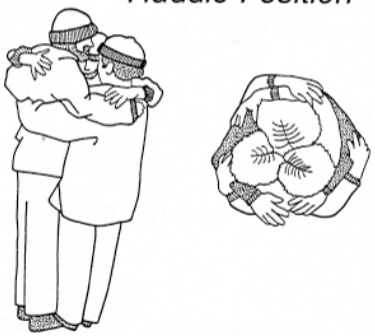
HELP

(Heat Escape Lessening Position)

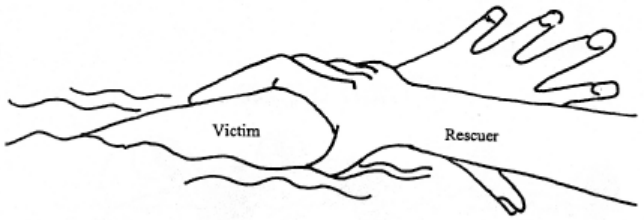
Chain Swim

JUMPING IN AN IMMERSION SUIT

Huddle Position



CORRECT HAND POSITION FOR RESCUE



7 Steps to Survival

- Recognition
- Inventory
- Shelter
- Signals
- Water
- Food
- Play

7 stay rules

1. Stay **Afloat**
2. Stay **Dry**
   - If you gotta get in, get in it slowly
   - Keep as much of your body out of the water as possible
3. Stay **Still** (HELP)
   - Movement increases circulation to the extremities. This results in cooled blood returning to the core, further reducing core temperature.
   - Staying still decreases heat loss by 30% and doubles chances of survival
4. Stay **Warm**
   - Protect main heat loss areas
5. Stay with the **Boat**
   - Only swim if you know you can make it (remember you have 5-10 mins in cold water before you lose control of your limbs
6. Stay **Together**
   - Bigger target, heat retention, help injured, moral support
7. Stay **Positive**

QUESTIONS AND COMMENTS?