

ALASKA RAILROAD

BOARDING

**MENDENHALL GLACIER**



**EXPEDITIONS**

Visit nature's thousand year-old wonder!

*In Beautiful*  
**MENDENHALL LAKE**  
TOURS HOURLY FROM JUNEAU

4C

*Visit*  
**JUNEAU**  
CAPITAL OF ALASKA

- BY AUTO
- o o o o BY SHIP
- BY PLANE




WHITEHORSE ALASKA HIGHWAY JUNEAU



**SCENIC and RECREATION CENTER OF ALASKA**

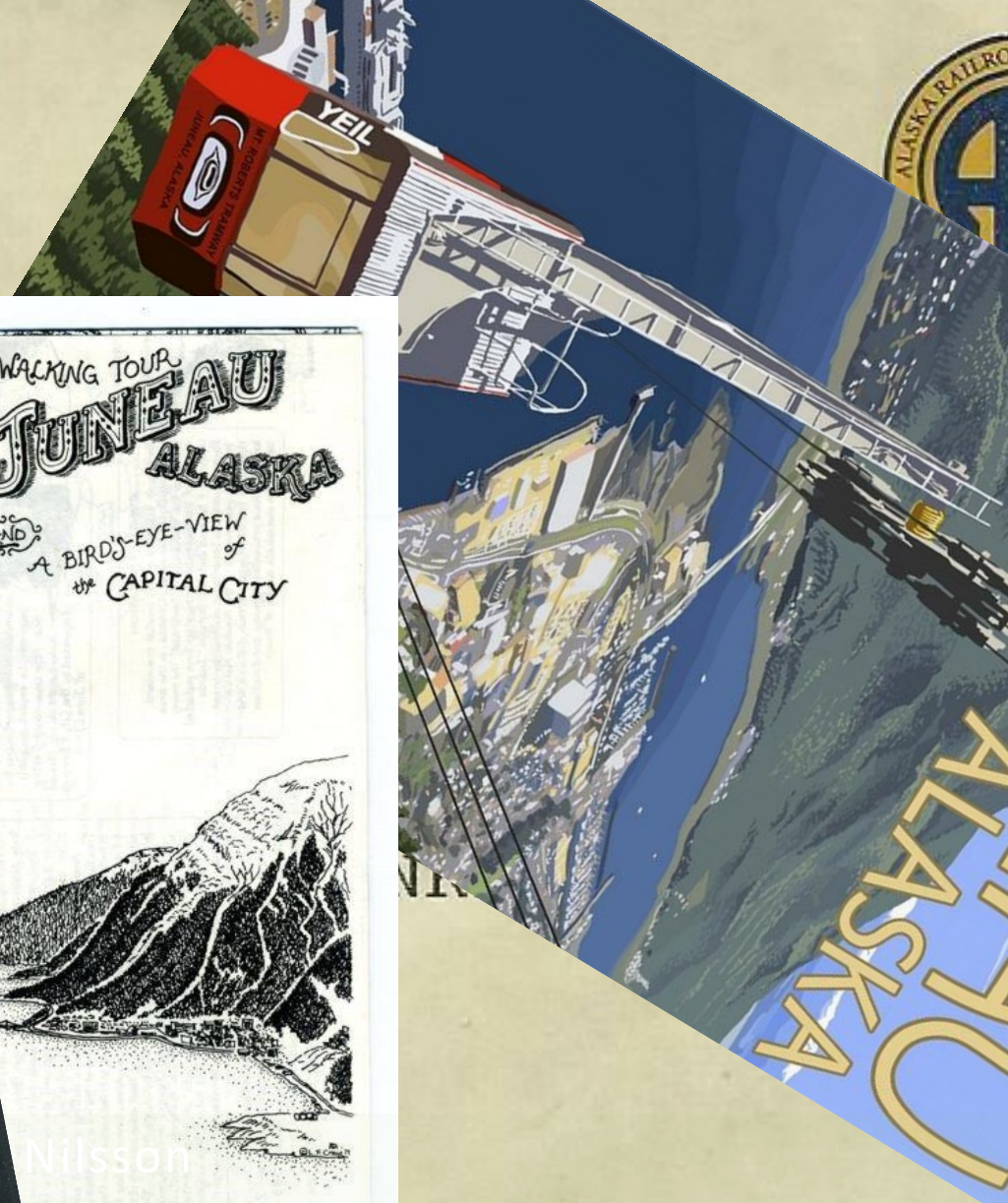
A WALKING TOUR  
of **JUNEAU**  
ALASKA

AND A BIRD'S-EYE-VIEW  
of  
the CAPITAL CITY



Nilsson

Support from the City & Borough of Juneau, the Alaska Division of the Southeast Alaska Empire for the Greater Juneau Chamber of Commerce, 10 N. Franklin St., Juneau, Ak., 99801 by Laurie Ferguson Craig '79



ALASKA



# SOUTHEAST ALASKA GUIDE SERVICES

## BOAT SAFETY & EMERGENCY PLANNING

CAR: C

SEAT: 4C

Route: DENALI - FAIRBANKS

Fare: COACH

SCENIC and RECREATION CENTER OF ALASKA

APRIL 2023



## AGENDA

- Hazards to Mariners
  - Top 5 Maritime Emergencies in Alaska
  - Analyzing your Waterways
- Legal Duties and Considerations
  - Required Safety Equipment
  - Maritime Law and Duty to Act
  - Passenger and Cargo Restrictions
- Boat Fires and Fire Response Plan
  - Identify the Onboard Fire Hazards
  - Fire Fighting Methods
  - Emergency Response Procedures
- Man Overboard/ Cold Water Immersion
  - Prevention and Response Procedures
  - Cold-Water Survival Techniques
  - Expanding Square Grid Search Procedures





## AGENDA (cont)

- Abandoning a Vessel
  - Making a Decision to Ditch
  - Managing Escape and Survival with Crew
- Perilous Weather
  - Reading Weather Reports
  - Anchoring at Sea in Rough Weather
  - Plan to Escape Serious Weather
- Towing and Open Water Passenger Transfers
  - Towing Equipment and Adequate Towing Vessels
  - Constructing a Tow Bridal
  - Hazards of Towing
- Medical Emergencies
  - CPR Refresher
  - Hypothermia Response and Treatment
  - Traumatic Injuries



# BOATING IN ALASKA



## Maritime Emergency Fact Sheet

- There were 2,116 accidents reported to officials in 2022, resulting in 130 fatalities
- 31% of all fatalities from boat accidents are drownings.
- 80% of all boaters who drowned in accidents were in a vessel less than 21 feet in length.
- At 17%, operating a watercraft while intoxicated is the leading factor behind boating accident deaths.
- Among all victims who were killed in these incidents, 85% were not wearing a life jacket



# BOATING IN ALASKA



## Top 5 Maritime Emergencies

1. Collision/ Grounding
2. Equipment Use Injury
3. Cold Water Immersion
4. Capsizing
5. Fire



# BOATING IN ALASKA



## Top 5 Accident Contributors

1. Operator Inattention
2. Operator Inexperience
3. Improper lookout
4. Excessive speed
5. Equipment/ Mechanical Failure



# BOATING IN ALASKA



## Researching Your Waterway

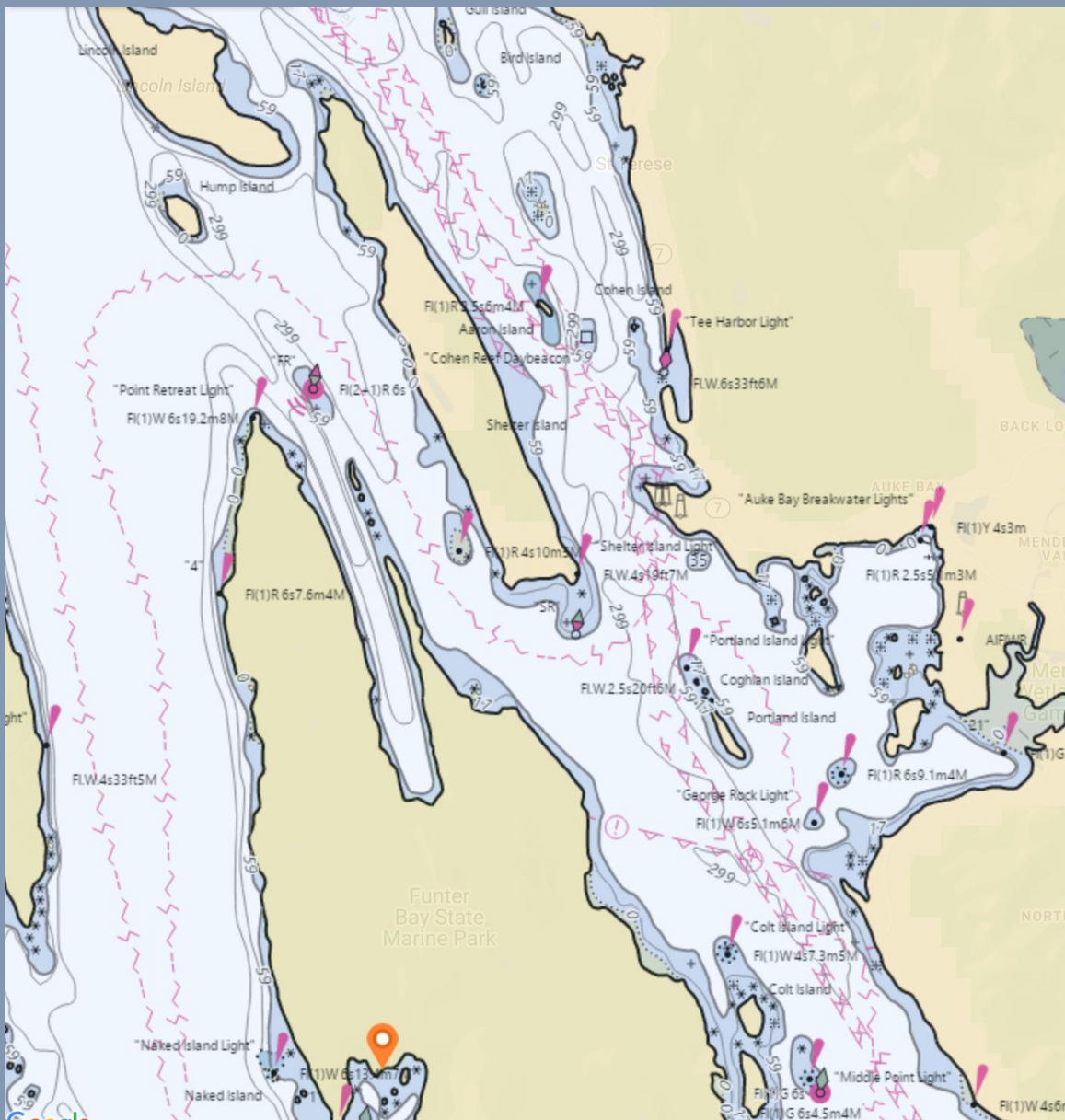
### Identify Natural Hazards

- Landslide Areas
- Narrow Passages and Tidal Effects
- Floating Hazards (Ice, Logs, Wildlife)
- Submerged Rocks and Shallow Areas

### Identify Other Hazards

- Regional Vessel Activity
- Temporary Placements (Traps, Construction, Moorage, Divers)

### Identify Services (Towing, USCG-Sector, Emergency Access, Rescue Points)





# BOATING IN ALASKA

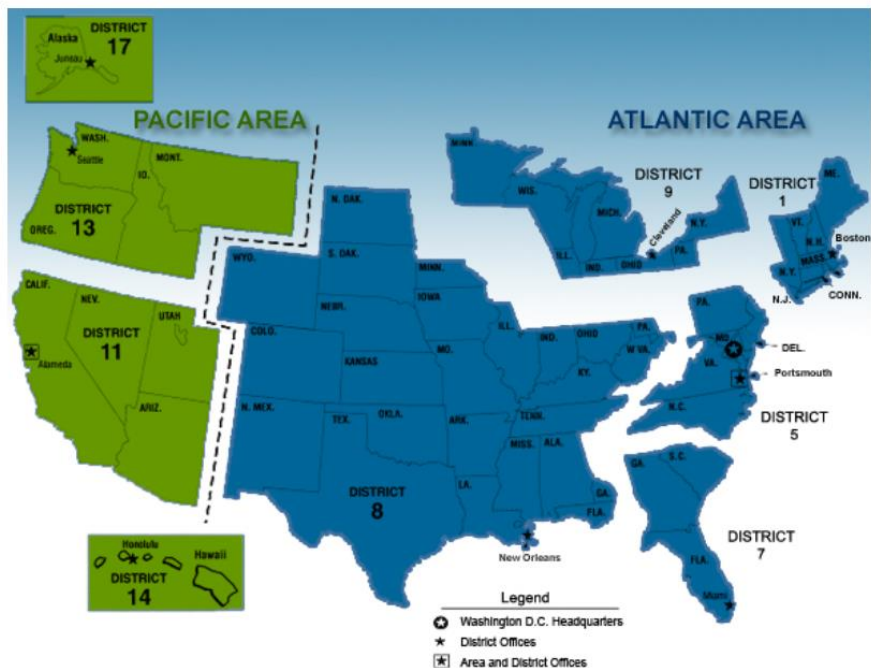


## Local Notice to Mariners

### Home

Weekly messages informing subscribers when the Coast Guard District Local Notices to Mariners (LNM) is available for downloading from the [Navigation Center website](#).

Please subscribe to receive email updates here: 



## Researching Your Waterway

Check Online for Updates to your Regional Waterways:

<https://www.dco.uscg.mil/Local-Notice-to-Mariners-LNMs/>

File a Float Plan:

<https://pledgetoliveak.org/>

Talk with Harbor Staff or USCG Sector Office



# BOATING IN ALASKA



## Weather Considerations

### Detailed Forecast

**Synopsis:** AT 16Z...OR 9 AM PDT...A 1027 MB SURFACE HIGH PRESSURE SYSTEM WAS CENTERED 500 NM W OF SEATTLE AND AN ELONGATED TROUGH OF LOW PRESSURE WAS OVER THE CENTRAL AND SOUTHERN CALIFORNIA COAST. THIS PATTERN WILL RESULT IN LIGHT TO MODERATE WINDS ACROSS THE COASTAL WATERS THROUGH EARLY THURSDAY AFTERNOON...THEN W TO NW WINDS WILL START TO INCREASE ACROSS THE OUTER WATERS FOR LATER IN THE WEEK AND THE WEEKEND. ISOLATED SPRINKLES AND SHOWERS WILL BE POSSIBLE THROUGH THIS EVENING.

<b>This Afternoon</b>	W wind around 10 kt. A slight chance of showers. Mixed swell...W 2 ft at 8 seconds and S 1 ft at 15 seconds. Wind waves around 2 ft.
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<b>Thursday Night</b>	W wind 5 to 10 kt, with gusts as high as 15 kt. Patchy fog after 11pm. W swell 2 ft. Wind waves 1 to 2 ft.
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### ABOUT THIS FORECAST



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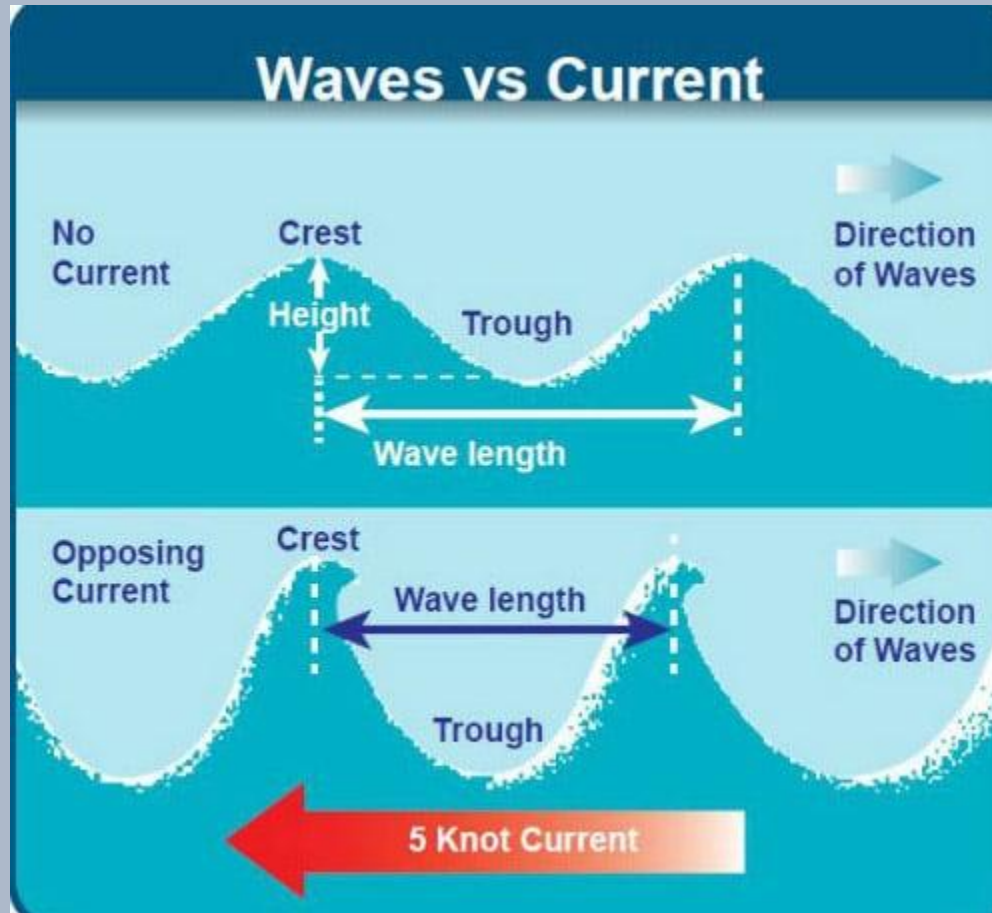
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# BOATING IN ALASKA



## Weather Considerations



# BOATING IN ALASKA



## Weather Considerations

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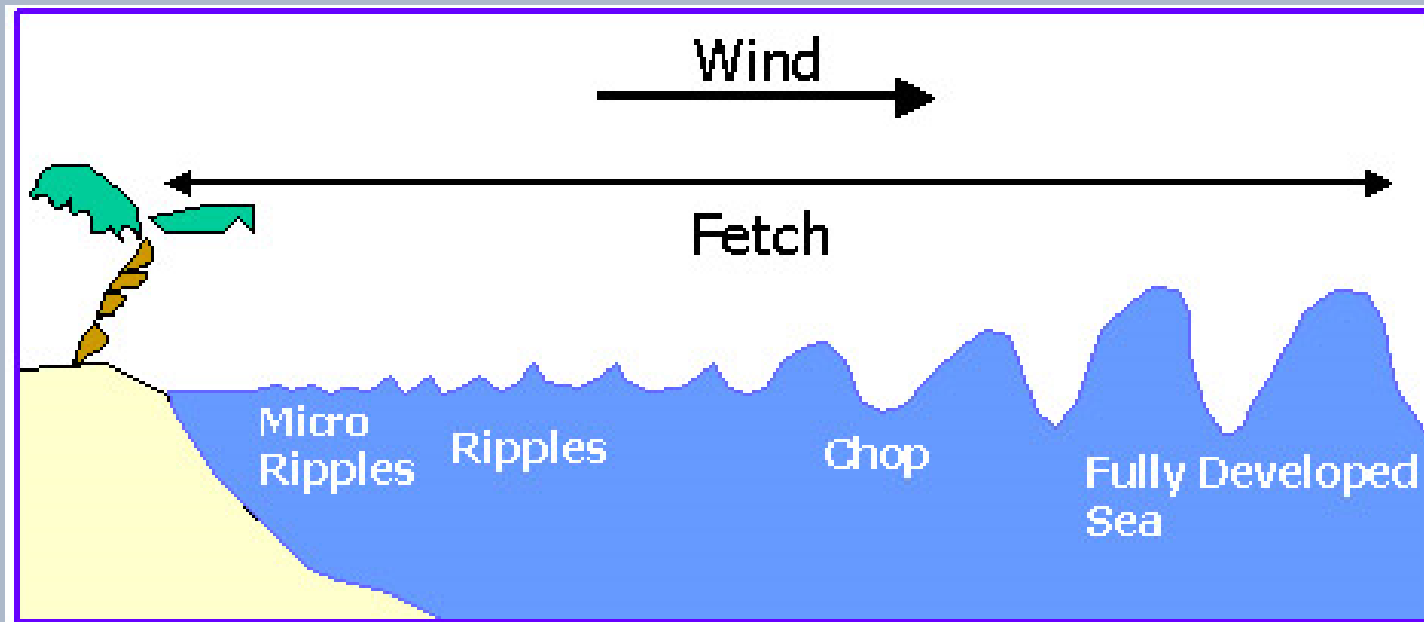
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# BOATING IN ALASKA



## Weather Considerations



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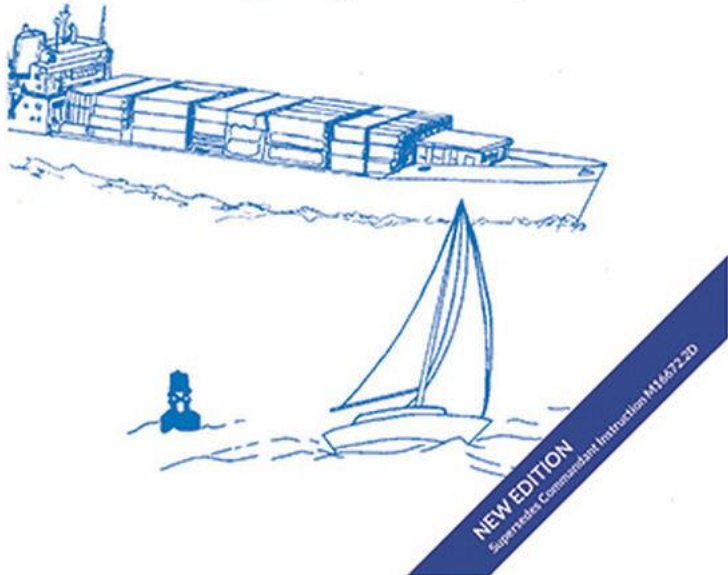


Department of  
Homeland Security  
United States  
Coast Guard



## Navigation Rules and Regulations Handbook

- Containing - International and Inland Rules of the Road and their respective Annexes
- Bridge-to-Bridge Radiotelephone Regulations
  - Vessel Traffic Management Regulations
  - Other pertinent regulations for waterway users



## Rules of the Road

*No vessel has ultimate legal right of way over another.*

*Navigation Rules of the Road govern how different situations should be handled based on the vessel type and activity*

*Avoid a collision at all costs, even if it means breaking another rule*

*Juneau and surrounding area falls under 'Inland Waters' boating regulation*

*A boat approaching from the starboard side is called the stand-on vessel. The stand-on vessel has the right of way*



# State and Federal Waterway Regulation



## Agencies

### United States Coast Guard

- Safety/ Prevention
- Rescue
- Inspections/ Licensing
- Law Enforcement

### Law Enforcement

- |                               |                |
|-------------------------------|----------------|
| -Juneau Police Department     | (907) 586-0600 |
| -Alaska State Troopers        | (907) 465-4000 |
| -US Forest Service            | (907) 586-8800 |
| -US Customs and Border        | (907) 586-7211 |
| -Alaska Dept of Fish and Game | (907) 465-2376 |
| -US Fish and Wildlife Service | (907) 780-1160 |
| -NOAA                         | (907) 586-7414 |

# State and Federal Waterway Regulation



## Agencies

### *Alaska Marine Exchange*

*-Safety/ Prevention*

*-Vessel Tracking and Command  
(907) 463-2607*

### *Alaska Department of Natural Resources, Office of Boating Safety*

*-Safety, Education*

*-Statistics*

*-Harvest and Subsistence Regulation  
(907) 269-8700*

### *AMSEA- Alaska Marine Safety Education Association*

*(907) 747-3287*



# State and Federal Waterway Regulation



## Restrictions

### *Commercial Enterprise Restrictions*

*Drugs are not allowed on board any vessel  
(Includes Marijuana and Cannabis-Infused  
Products)*

*Alcohol limit is .08%*

*No Firing of Weapons to Onshore Targets*

*Refer to Coast Pilot for Borough and Harbor Laws*

*Juneau Cruise Ship Terminal Area*

# State and Federal Waterway Regulation



## Frequently Asked Questions

*“Can Law Enforcement board my vessel without a cause or Warrant?”*



# State and Federal Waterway Regulation



## Frequently Asked Questions

*“Can Law Enforcement board my vessel without a cause or Warrant?”*

**Yes. Any State or Federal Law Enforcement Officer, State or Federally charged statistician, or Regional Safety Officer may board any vessel, at any time, for any reason, while unmoored**

# State and Federal Waterway Regulation



## Frequently Asked Questions

*“Are passengers required by law to wear Life Jackets?”*





## Frequently Asked Questions

*“Are passengers required by law to wear Life Jackets?”*

**No. However, any passenger younger than 13-years of age is required to wear a size-appropriate life jacket while engaged in water sports, or aboard ‘open deck’ craft**

# State and Federal Waterway Regulation



## Frequently Asked Questions

*“What constitutes ‘Negligent Operation of a Vessel?’”*





## Frequently Asked Questions

*“What constitutes ‘Negligent Operation of a Vessel?’”*

**‘NOV’ is a citable offense in which a Law Enforcement Officer witnesses reckless or unsafe behavior from a boat operator or passengers. Interpretation of ‘NOV’ offenses is determined by Coast Guard Investigative Service (CGIS)**

# State and Federal Waterway Regulation



## Frequently Asked Questions

*“Am I legally obligated to assist other mariners in distress?”*





## Frequently Asked Questions

*“Am I legally obligated to assist other mariners in distress?”*

Yes. “(1)A master or individual in charge of a vessel shall render assistance to any individual found at sea in danger of being lost, so far as the master or individual in charge can do so without serious danger to the master’s or individual’s vessel or individuals on board.

(2)Paragraph (b): A master or individual violating this section shall be fined not more than \$1,000, imprisoned for not 2 years, or both.”

(Title 46 U.S. Code § 2304)

# State and Federal Waterway Regulation



## Frequently Asked Questions

*“Which safety items am I legally obligated to have onboard?”*



# State and Federal Waterway Regulation



## ALASKA REQUIREMENTS SUMMARY

Requirements	Boats under 16 feet	Boats 16 feet to less than 26 feet	Boats 26 feet to less than 40 feet	Boats 40 feet to less than 65 feet
<b>Personal Flotation Devices (PFD)</b>	One USCG-approved Type I, II, III or V PFD for each person on board. Must be in serviceable condition. Persons under 13 must wear a PFD when in an open boat, on the deck of a boat or when waterskiing.			
<b>Throwable Devices (Type IV)</b>	Recommended but not mandatory.	Except for canoes and kayaks, one USCG-approved Type IV (seat cushion or throw ring) device must be carried.		
<b>Sound Producing Devices</b>	Boats less than 39.4 feet (12 meters) in length must be able to make an efficient sound signal (such as that made with a whistle or horn) to signal intentions and to signal position in periods of reduced visibility.			Boats 39.4 feet (12 meters) or more in length must carry on board a whistle or horn.
<b>Visual Distress Signals</b>	USCG-approved night signals required between sunset and sunrise.	USCG-approved visual distress signals for both day and night time use must be carried. Exception: boats and open sailboats not equipped with mechanical propulsion and under 26 feet in length are <u>not</u> required to carry day signals. <i>Note: Pyrotechnic devices, if used to meet this requirement, must be current, serviceable and readily accessible. At the minimum, a total of three day/night combination devices or three day and three night devices must be carried.</i>		



# State and Federal Waterway Regulation



<b>ALASKA REQUIREMENTS SUMMARY</b>				
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<b>Fire Extinguishers</b>	At least one USCG-approved B-I required for boats with inboard engines, living spaces, permanent fuel tanks or enclosed storage areas or hull voids not sealed or filled with flotation material.		At least two B-I or one B-II USCG-approved fire extinguishers.	At least three B-I or one B-I and one B-II USCG-approved fire extinguishers.
<b>Navigation Lights</b>	Display required between sunset and sunrise and during periods of restricted visibility. International configuration required (varies with length and mode of operation). See the International Navigation Rules.			
<b>Backfire Flame Arrestors</b>	One USCG-approved backfire control device on each carburetor of all inboard gasoline engines.			
<b>Ventilation</b>	Boats with permanently installed engines, closed compartments or permanent fuel tanks must have efficient natural or mechanical ventilation.			
<b>Registration</b>	Undocumented boats equipped with mechanical propulsion (gas, diesel or steam engines, and electric motors) and any undocumented vessel used in sport fishing charter activities must be registered with the Division of Motor Vehicles. Certificate of Number must be carried onboard. Registration numbers and validation decals must be properly displayed on hull of boat.			

REV 11.5.12

Alaskaboatersafety.org



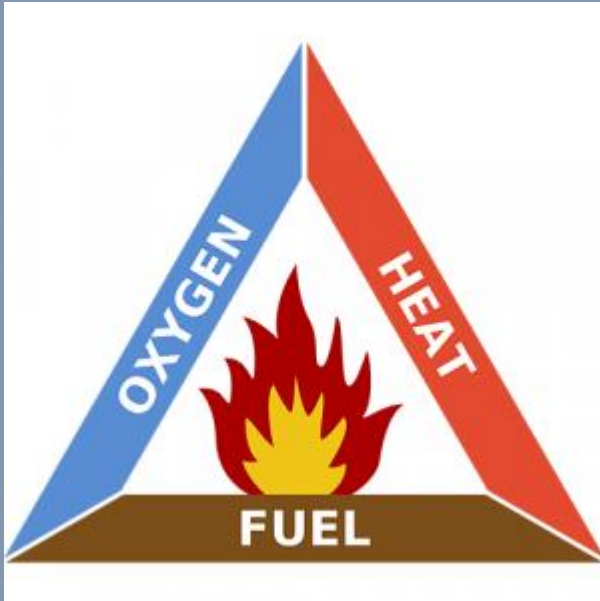
# FIRE EMERGENCY PLAN



M/V 'Conception'  
September 2<sup>nd</sup>, 2019  
34-Deaths



# FIRE EMERGENCY PLAN



## Fire Hazards

### *Fuels*

- Gasoline (tank, lines, fittings, vapors)*
- Lithium Batteries*
- Plastics (upholstery, trim, carpet)*
- Wood*

### *Fire Tetrahedron*

*Heat/ Ignition*

*Oxygen/ Oxidizer*

*Fuel*

*\*Remove one or more item(s)*

# FIRE EMERGENCY PLAN



## Fire Hazards

### Ignition Sources

26% Off-The-Boat Sources

20% Engine Electrical: For boats older than 25 years, old wiring harnesses

15% Other DC Electrical: Reversing the positive and negative cables.

12% AC Electrical: Shore Power/Inverter

9% Engine Overheat

8% Outboard Electrics: Voltage Regulator

# FIRE EMERGENCY PLAN



## SECTION 5: FIRE SOURCE REFERENCE

Engine/ Combustion Area(s)

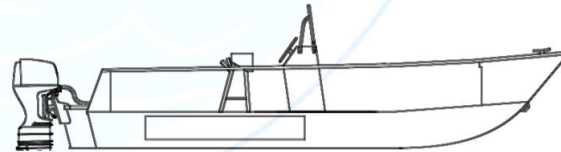
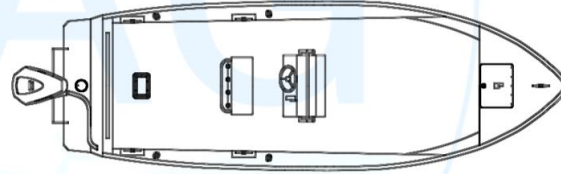
Fuel Vapor Areas

Flammable Fluid Storage

Fuel Tank/ Compartment

Fuel Lines

Electrical Housing



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# FIRE EMERGENCY PLAN



## Fire Extinguishers

Classes Of Fires	Types Of Fires	Picture Symbol	Extinguisher
	Wood, paper, cloth, trash and other ordinary materials.		<ul style="list-style-type: none"><li>Water</li><li>Foam Spray</li><li>ABC Powder</li><li>Wet Chemical</li></ul>
	Gasoline, oil, paint and other flammable liquids		<ul style="list-style-type: none"><li>Foam Spray</li><li>ABC Powder</li><li>Carbon Dioxide</li></ul>
	May be used on fires involving live electrical equipment without danger to the operator		<ul style="list-style-type: none"><li>ABC Powder</li></ul>
	Combustible metals and combustible metal alloys		<ul style="list-style-type: none"><li>ABC Powder</li><li>Carbon Dioxide</li></ul>
	Cooking media (Vegetable or Animal Oils and Fats)		<ul style="list-style-type: none"><li>Wet Chemical</li></ul>

# FIRE EMERGENCY PLAN



## Fire Extinguishers

P= Pull

A= Aim

S= Squeeze

S= Sweep

# FIRE EMERGENCY PLAN



## Fire Extinguishers

Store away from highly flammable areas

Store below waist-level, but not on deck flooring

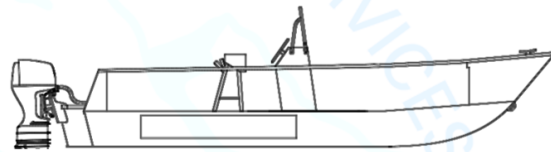
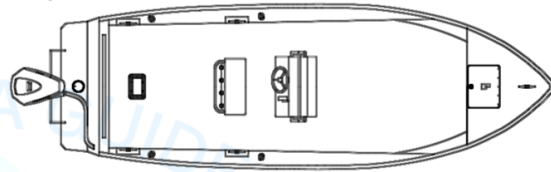
Ensure each type of fuel extinguisher is available for each fuel type present

Always completely discharge the entire contents of the Extinguisher

### SECTION 4: EMERGENCY EQUIPMENT

- Fire Extinguisher TYPE:    A    B    C
- Fuel Shutoff
- Water Bucket(s)
- Fire Blanket

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_





# FIRE EMERGENCY PLAN



## IMMEDIATE RESPONSE

- Yell "FIRE" and location
- Move passengers away from fire and smoke
- Instruct crew and passengers to don life jackets and locate tools listed in Section 4
- Initiate radio call listed in Section 2

## SECTION 2: RADIO CALL

- Select highest broadcast setting (amps)
- If enabled, press 'Distress Button'
- Key microphone, breathe deeply, and begin radio call in a slow, and clear voice.

"MAYDAY, MAYDAY, MAYDAY.

This is \_\_\_\_\_ (3X),

My position is \_\_\_\_\_, ←

Use Degree Decimal Minute Second (DDMS) format (ex: 'N 30 14.537 W 88 18.372' is read as: "30 tack 14 decimal 537 North, by 88 tack 18 decimal 372 West")

I have a fire on board, located in the vessel's:

\_\_\_\_\_, ←

(On deck, galley, engine, etc)

My vessel is \_\_\_\_\_' in length and \_\_\_\_\_ in color.

There are \_\_\_\_\_ souls on board. We are:

\_\_\_\_\_. ←

"Attempting to extinguish the fire" or "abandon ship"

MAYDAY, MAYDAY, MAYDAY.

This is \_\_\_\_\_ (3X)

Position is \_\_\_\_\_."

## SECTION 3: SECONDARY RESPONSE

- Direct smoke away from helm and crew
- Do not terminate fuel lines until decision has been made to abandon ship
- Do not activate engine compartment fuel suppression before deactivating engine and ventilation ports
- Remove fuel source, oxygen, or heat from fire

## Response Procedures (Immediate)

1. Alert Crew and Passengers of the fire by yelling "FIRE" and the location of the smoke/ flames
2. Direct passengers upwind of the flames/ smoke
3. Instruct Crew and Passengers to don life-jackets with the intention to abandon the vessel
4. Secure all fire-fighting materials

# FIRE EMERGENCY PLAN



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(On deck, galley, engine, etc)

"Attempting to extinguish the fire" or "abandon ship"

## Response Procedures (Radio Call)

Digital Selective Calling: VHF must be networked to a GPS unit for 'Distress Button' to replay coordinates and IMSI Info

Ensure your transmission output is set to the highest amperage (1 amp= 1 mile of signal travel)

Remember, boat fires happen fast. Consider your first radio call to be your only radio call

# FIRE EMERGENCY PLAN



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This is \_\_\_\_\_ (3X)

Position is \_\_\_\_\_."

## SECTION 3: SECONDARY RESPONSE

- Direct smoke away from helm and crew
- Do not terminate fuel lines until decision has been made to abandon ship
- Do not activate engine compartment fuel suppression before deactivating engine and ventilation ports
- Remove fuel source, oxygen, or heat from fire

## Response Procedures (Secondary Response)

Keep smoke and fumes away from: Helm, passengers, escape routes, life raft platforms

Attempt to maintain propulsion until doing so will increase fire risk

Know how to restart your engines after an automatic engine shutdown

Do not introduce oxygen to inboard or below deck fires

When possible, anchor your vessel prior to ditching



# COLD WATER EMERGENCIES



# COLD WATER CASUALTY



## Types of Cold-Water Emergencies

### Man Overboard

-Known position

-Unknown position

### Hypothermia

### Drowning

### Capsizing/ Foundering

### Response Role

-Direct

-Assisting

Vessel: \_\_\_\_\_ Callsign: \_\_\_\_\_ Draft Date: \_\_\_\_\_

## Emergency Man-Overboard Recovery

**Instructions:** Use this checklist to guide you through the procedures of recovering a person (or persons) from the water. **STEP 1:** Conduct 'Immediate Response' procedures. **STEP 2:** Make VHF Radio Call. **STEP 3:** Begin 'Search Quadrant' plan and execution. **STEP 4:** Approach and recover casualty. **STEP 5:** Begin casualty medical assessment, treatment, and plan to return to shore. **STEP 6:** Inform and update USCG.

### IMMEDIATE RESPONSE

- Yell "Man-Overboard"
- Deploy a brightly colored or illuminated "datum" into the water. Mark GPS location.
- Instruct crew and passengers to don life jackets and locate tools listed in Section 3
- Initiate radio call listed in Section 2

### SECTION 2: RADIO CALL

- Select highest broadcast setting (amps)
- If enabled, press 'Distress Button'
- Key microphone, breathe deeply, and begin radio call in a slow, and clear voice.

"MAYDAY, MAYDAY, MAYDAY.

This is \_\_\_\_\_ (3X),

My position is \_\_\_\_\_ ←

I have a man-overboard in the vicinity of:

\_\_\_\_\_ ←

My vessel is \_\_\_\_\_ in length and \_\_\_\_\_ in color.

I will begin an expanding (Square) (Circle) ←

search grid from \_\_\_\_\_ ←

at a course of \_\_\_\_\_° making Starboard turns. ←

Standing-by on Channel 16. Over"

### SECTION 3: TOOLS RESOURCES

- Binoculars/ Scopes
- Throw Rope and Bag
- Gaff
- Spotlight/Flash Light

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Use Degree Decimal Minute Second (DDMS) format (ex: 'N 30 14.537 W 88 18.372' is read as: "30 tack 14 decimal 537 North, by 88 tack 18 decimal 372 West")

(Island, Point, Bay, Harbor, Inlet, Region)

Choose one method (see page 3)

Location of datum

First track is down-current from datum

# COLD WATER CASUALTY



## Man Overboard (Immediate Response)

Identify immediate collision hazards and do not turn vessel away from casualty

Datums: Brightly colored, light emitting, additional flotations, rises from the water surface

If MOB is visible, instruct crew to keep fingers pointed at casualty until operator is approaching

Manage your wake

Vessel: \_\_\_\_\_ Callsign: \_\_\_\_\_ Draft Date: \_\_\_\_\_

### Emergency Man-Overboard Recovery

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(Island, Point, Bay, Harbor, Inlet, Region)

My vessel is \_\_\_\_\_' in length and \_\_\_\_\_ in color.

I will begin an expanding (Square) (Circle) ←

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search grid from \_\_\_\_\_ ←

Location of datum

at a course of \_\_\_\_\_<sup>0</sup> making Starboard turns. ←

First track is down-current from datum

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# COLD WATER CASUALTY



## Emergency Man-Overboard Recovery

**Instructions:** Use this checklist to guide you through the procedures of recovering a person (or persons) from the water.  
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### SECTION 4: CREW INSTRUCTIONS

- Assign lookouts to each four quadrants. If available, assign secondary lookouts
- Instruct crew to "scan the horizon, not the foreground"
- Assign a crewmember to relay datum direction and distance
- Instruct crewmembers to NOT leave their quadrant in the event of a possible sighting

### SECTION 5: SPOT AND APPROACH

- Notify USCG and surrounding vessels that you have spotted a man-overboard:

"All-Stations, All-Stations, All-Stations,

This is \_\_\_\_\_,

I have spotted a man-overboard in the water at

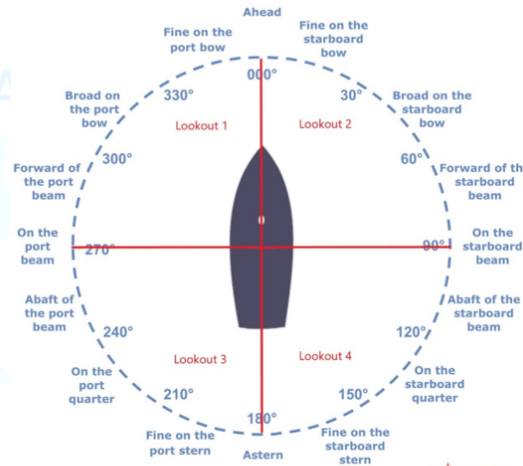
\_\_\_\_\_° from position \_\_\_\_\_.

We are attempting recovery. All vessels

maintain your search grids and standby on

Channel 16."

- Release lookouts from quadrant once casualty identity is confirmed
- Choose an approach from the windward side of the casualty



## Man Overboard (Searching)

Use all available onboard personnel

Small movement is best seen through your peripheral vision, scanning the horizon line

When available, one competent crewmember should assist the boat operator in scoping DATUM, and logging track speeds

Only scan within your quadrant and rotate crew to avoid eye fatigue

# COLD WATER CASUALTY



## Emergency Man-Overboard Recovery

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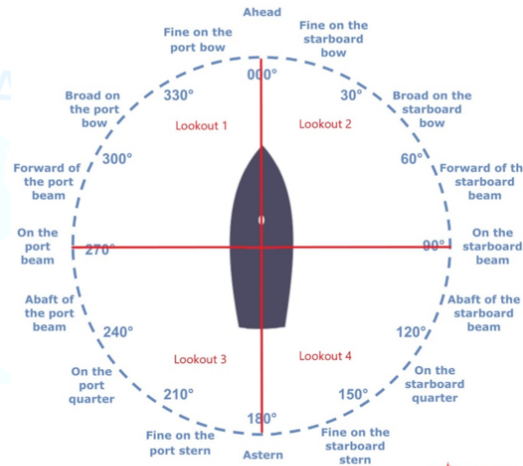
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We are attempting recovery. All vessels

maintain your search grids and standby on

Channel 16."

- Release lookouts from quadrant once casualty identity is confirmed
- Choose an approach from the windward side of the casualty



## Man Overboard (Upon Discovery)

Do not release vessels from search areas until confirmation is made

Approach from the windward side of casualty to lessen propulsion adjustments and block wave action

Train crewmembers on 'walking the casualty' alongside the beam of the vessel

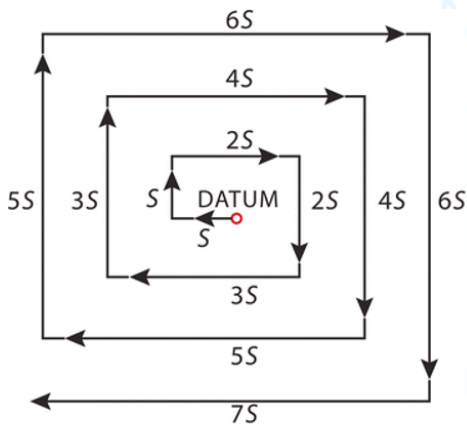
Never 'Back Down' on a victim in the water



# COLD WATER CASUALTY



## Initiating an Expanding Square Search Grid



- Step 1: Identify the down-current direction
- Step 2: Mark heading and speed (7-10 knots ideal)
- Step 3: Travel chosen heading for 60-seconds
- Step 4: Initiate a 90° turn to starboard
- Step 5: Travel new heading for 60-seconds
- Step 6: Initiate a 90° turn to starboard
- Step 6: Travel heading for 120-seconds (2-minutes)
- Step 7: Initiate a 90° turn to starboard
- Step 8: Travel heading for 120-seconds (2-minutes)

\*Continue to make incremental starboard turns, doubling the time of travel every 3<sup>rd</sup> turn. Datum should remain in the starboard view.

Initial Heading \_\_\_\_\_ Track Speed \_\_\_\_\_

Track Time (minutes) 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

11 \_\_\_ 12 \_\_\_ 13 \_\_\_ 14 \_\_\_ 15 \_\_\_ 16 \_\_\_ 17 \_\_\_ 18 \_\_\_ 19 \_\_\_ 20 \_\_\_ 21 \_\_\_ 22 \_\_\_

23 \_\_\_ 24 \_\_\_ 25 \_\_\_ 26 \_\_\_ 27 \_\_\_ 28 \_\_\_ 29 \_\_\_ 30 \_\_\_ 31 \_\_\_ 32 \_\_\_ 33 \_\_\_ 34 \_\_\_

35 \_\_\_ 36 \_\_\_ 37 \_\_\_ 38 \_\_\_ 39 \_\_\_ 40 \_\_\_ 41 \_\_\_ 42 \_\_\_ 43 \_\_\_ 44 \_\_\_ 45 \_\_\_ 46 \_\_\_

47 \_\_\_ 48 \_\_\_ 49 \_\_\_ 50 \_\_\_ 51 \_\_\_ 52 \_\_\_ 53 \_\_\_ 54 \_\_\_ 55 \_\_\_ 56 \_\_\_ 57 \_\_\_ 58 \_\_\_

## Man Overboard (Expanding Grid Searches)

Most effective when the location of the search object is known within relatively close limits.

The search commencement point is always the datum position.

Most effective in single ship searches.

Accurate navigation is critical for proper tracks.

The first leg is usually oriented directly into the wind and/ or current.

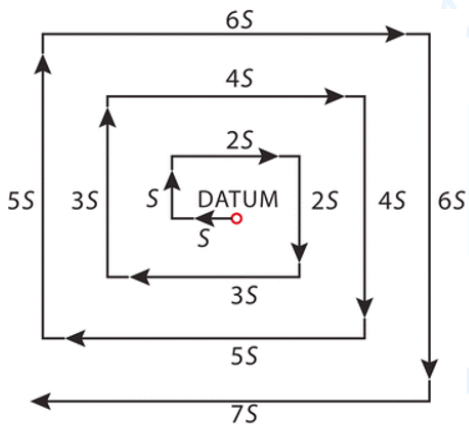
All course alterations are of 90 degrees starboard.

# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid



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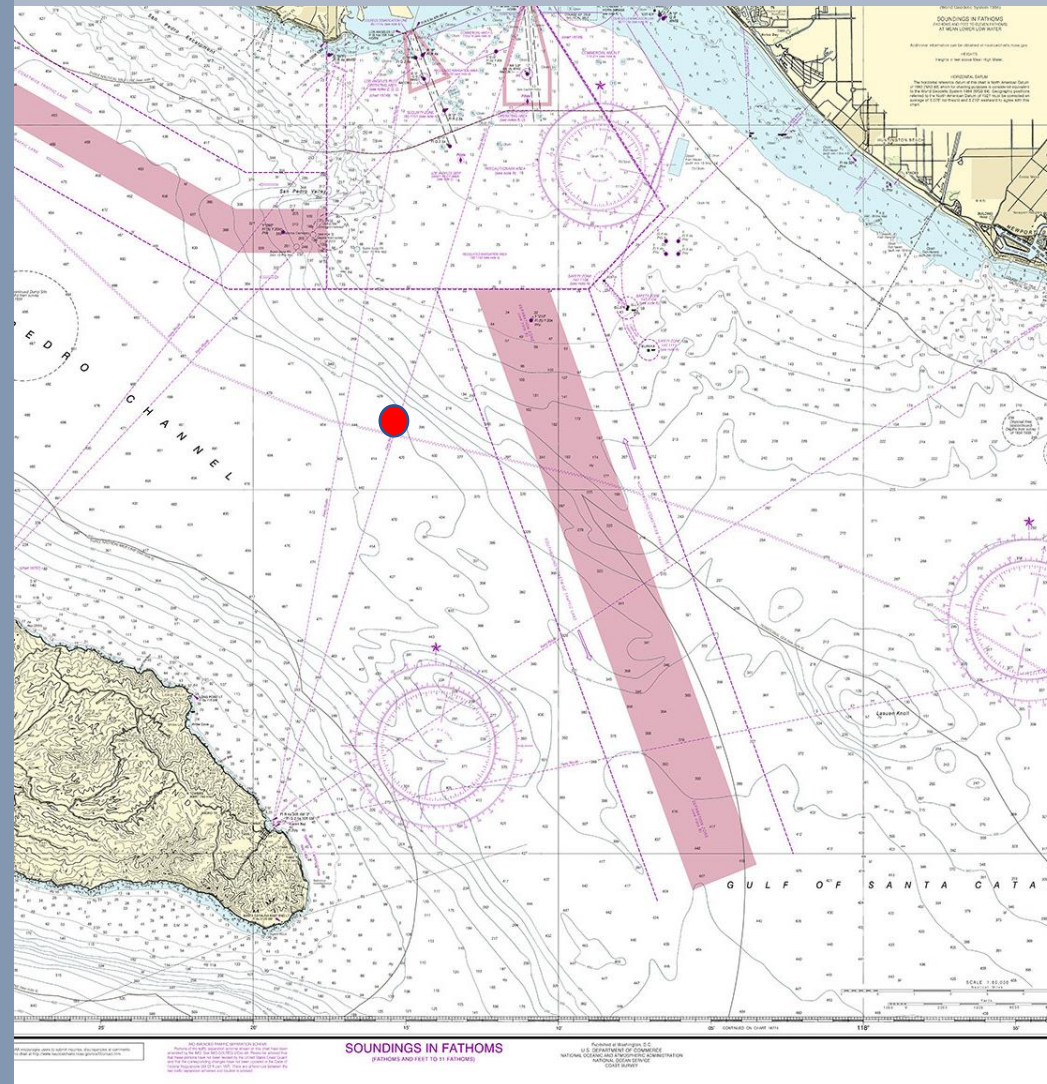
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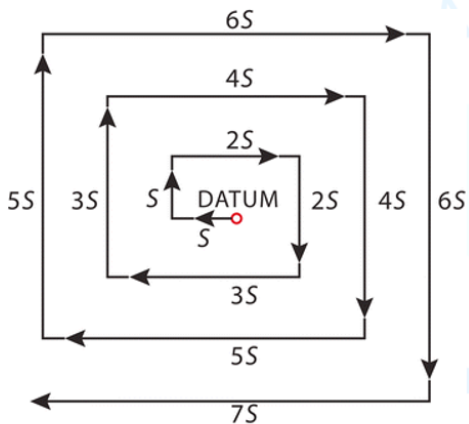


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid

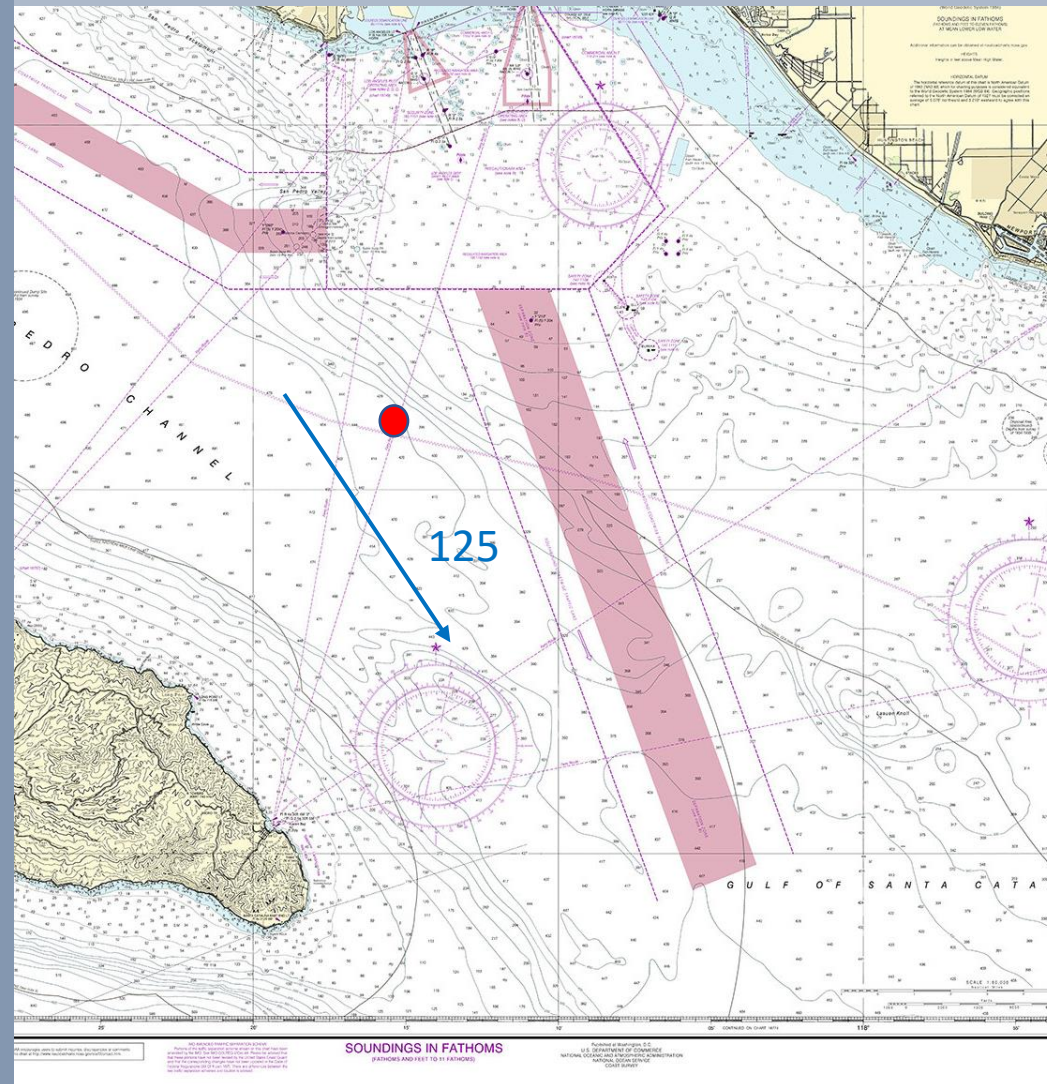


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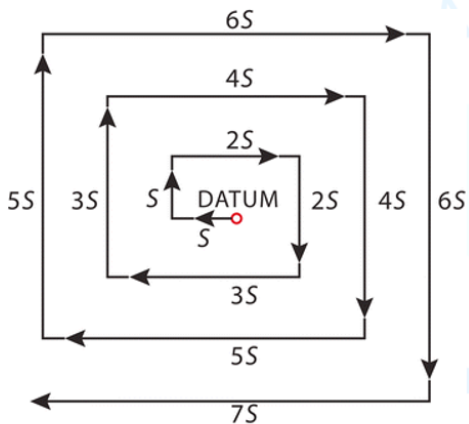


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid

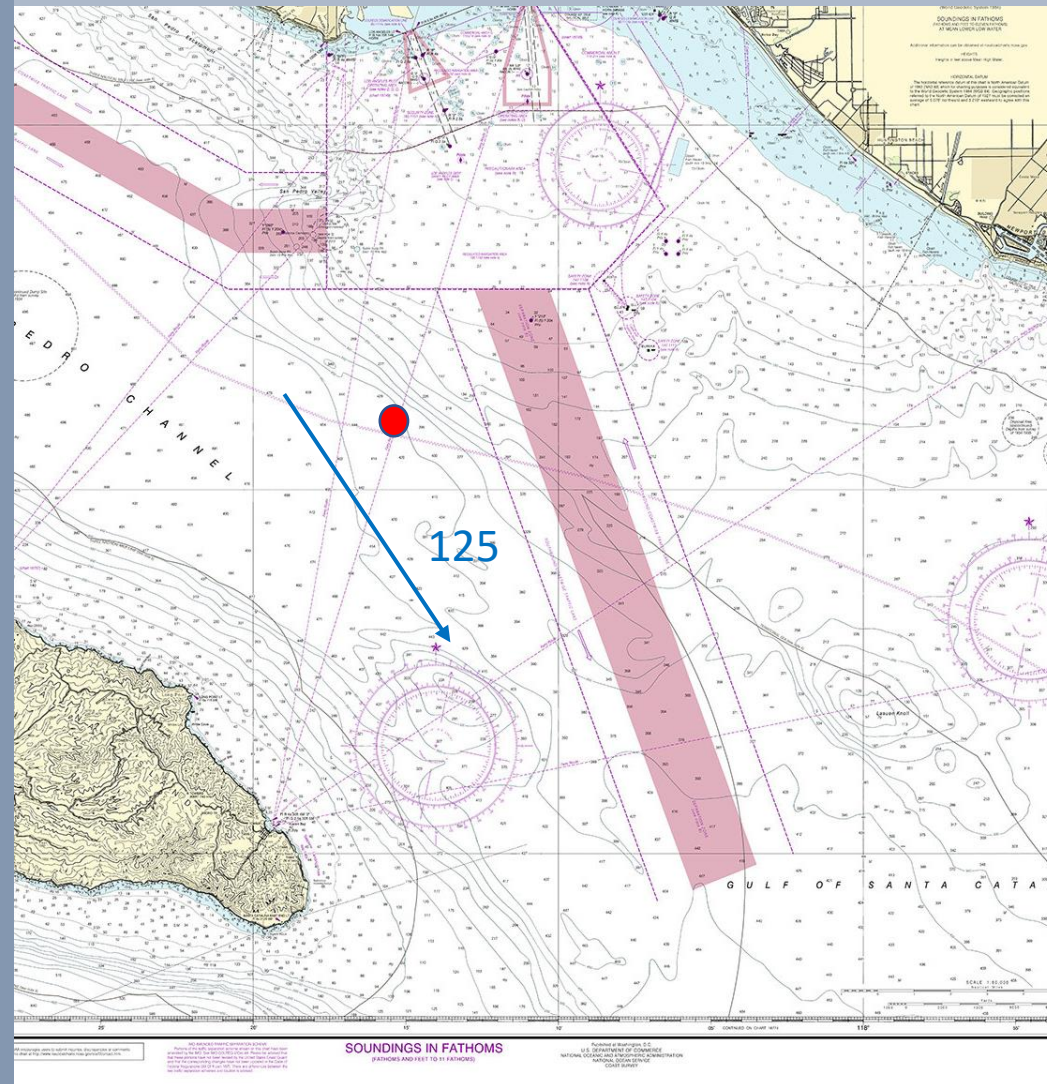


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\*Continue to make incremental starboard turns, doubling the time of travel every 3<sup>rd</sup> turn. Datum should remain in the starboard view.

Initial Heading 305 Track Speed 10 kts

Track Time (minutes) 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_  
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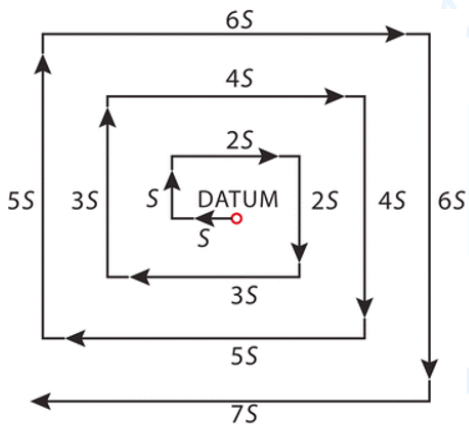


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid



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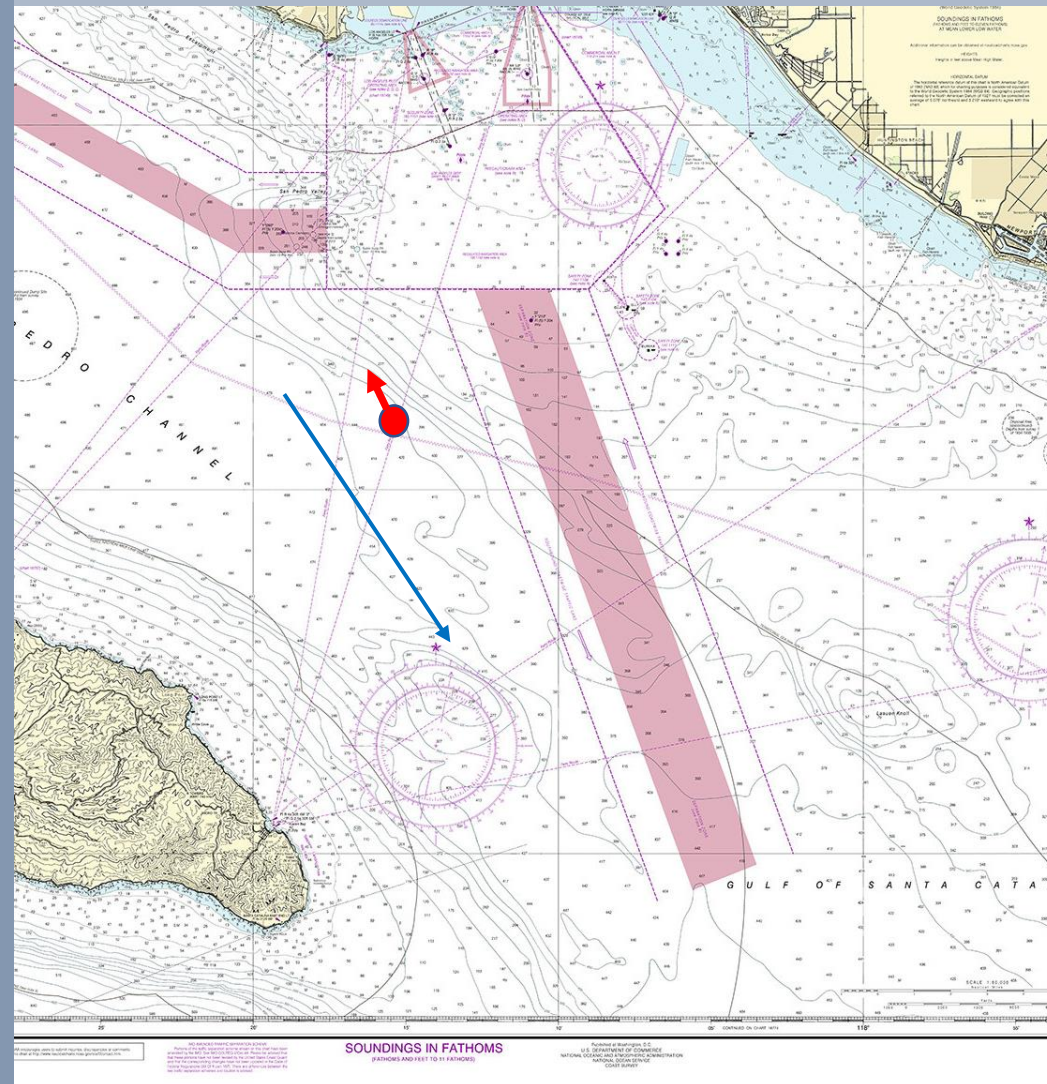
Track Time (minutes) 1 1 2 3 4 5 6 7 8 9 10

11 12 13 14 15 16 17 18 19 20 21 22

23 24 25 26 27 28 29 30 31 32 33 34

35 36 37 38 39 40 41 42 43 44 45 46

47 48 49 50 51 52 53 54 55 56 57 58



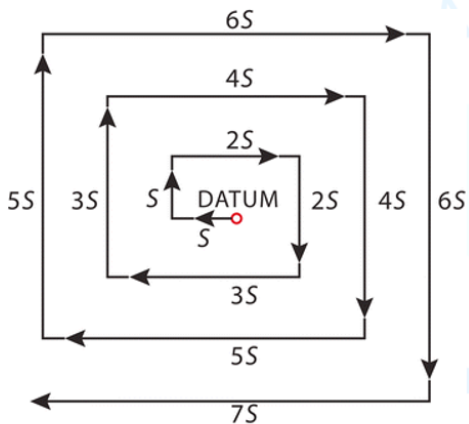


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Initial Heading 305 Track Speed 10 kts

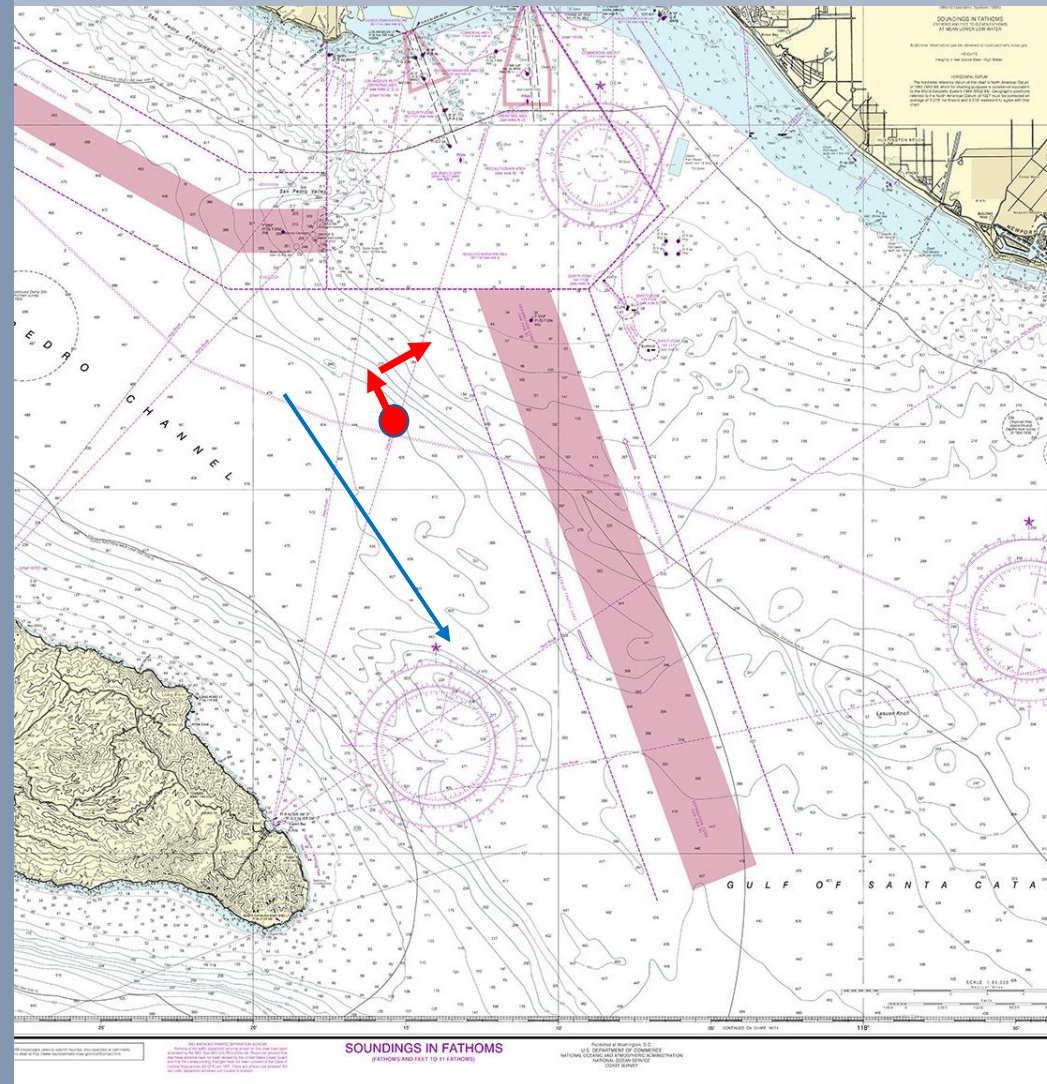
Track Time (minutes) 1 1 2 1 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6 \_\_\_ 7 \_\_\_ 8 \_\_\_ 9 \_\_\_ 10 \_\_\_

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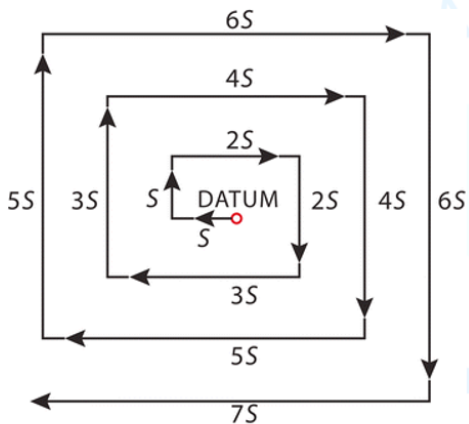


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

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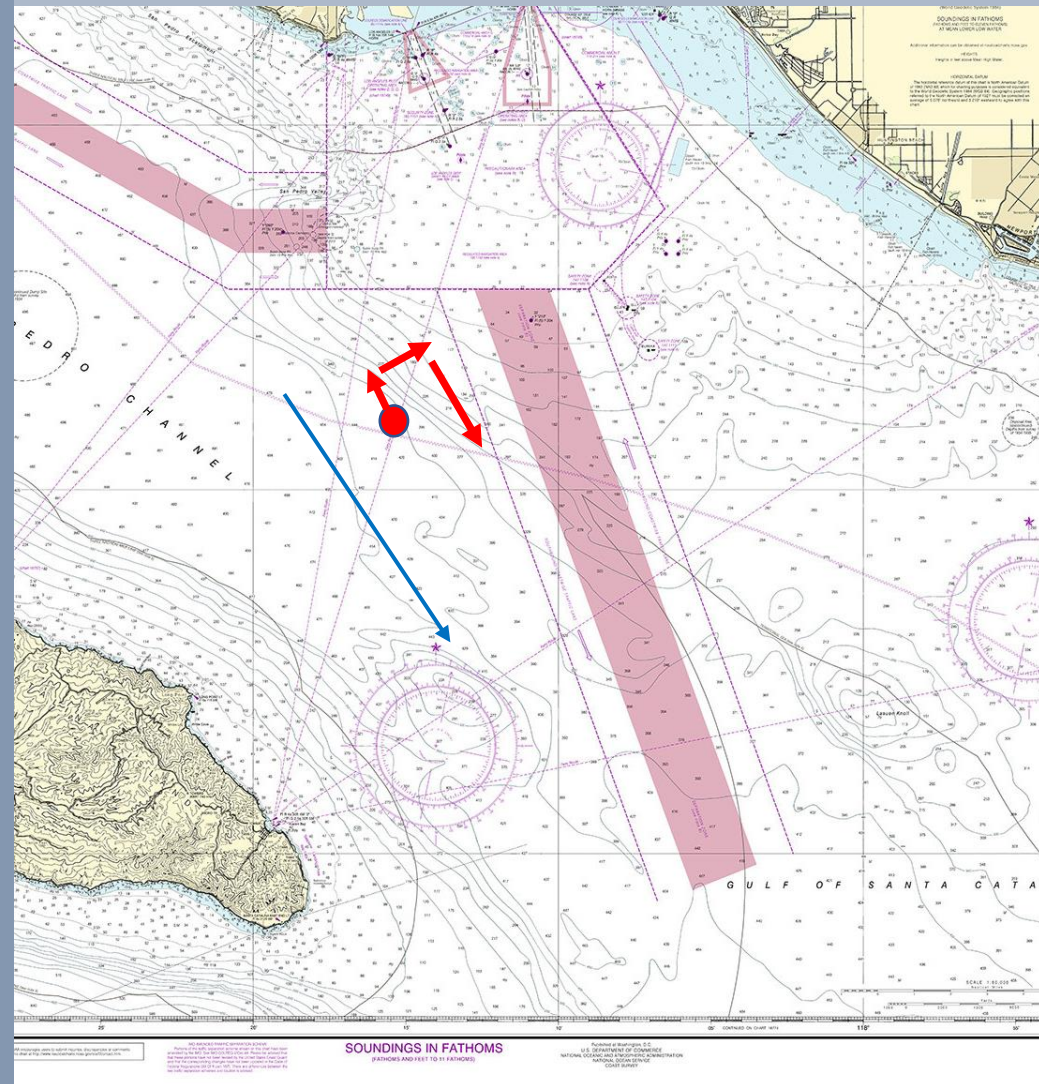
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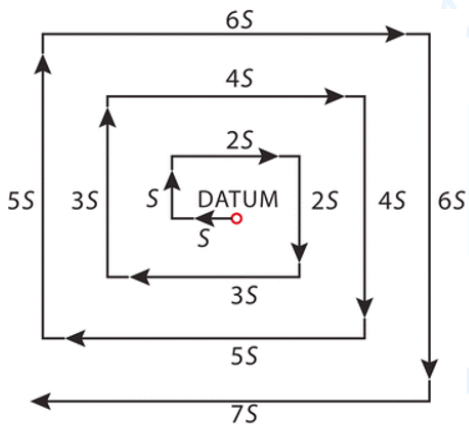


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid



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- Step 2: Mark heading and speed (7-10 knots ideal)
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Initial Heading 305 Track Speed 10 kts

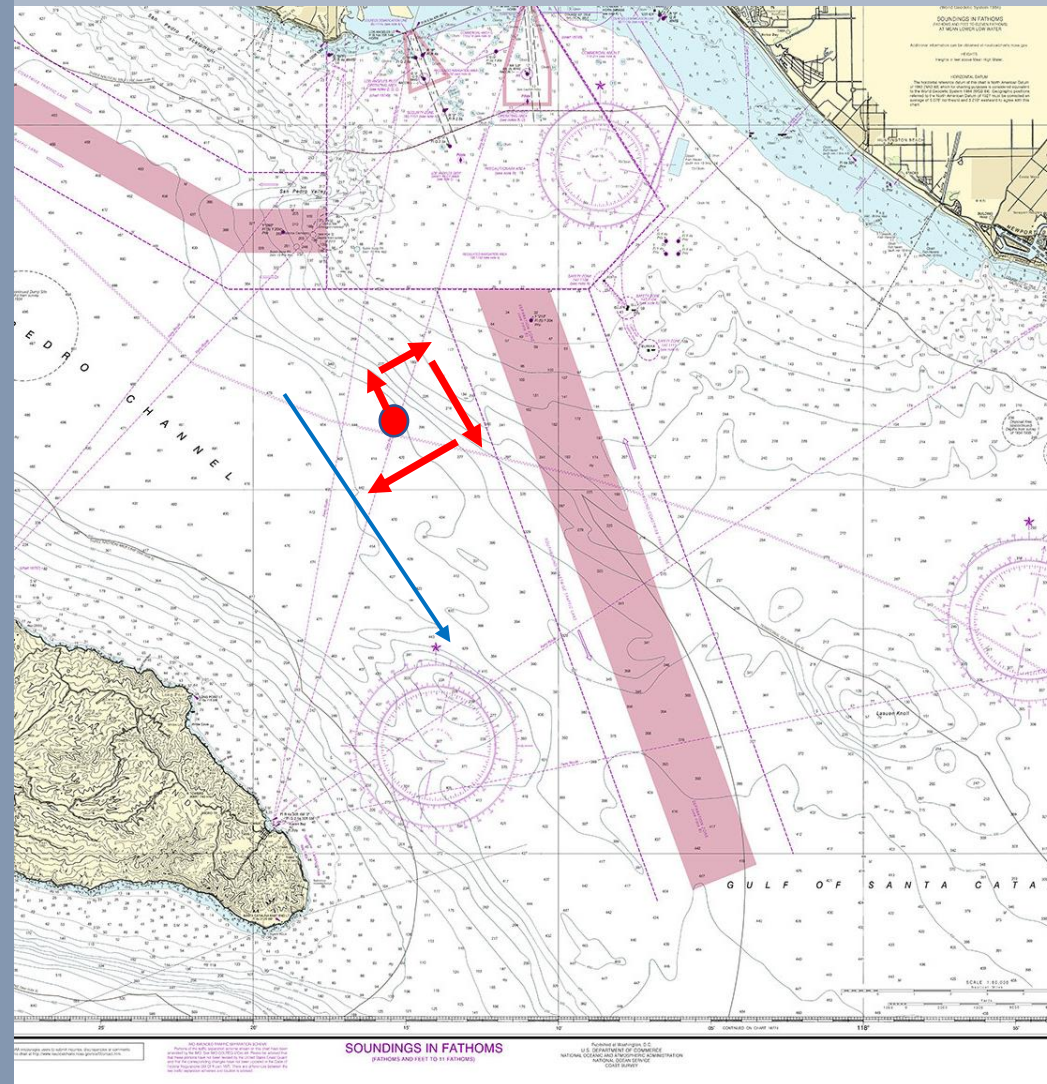
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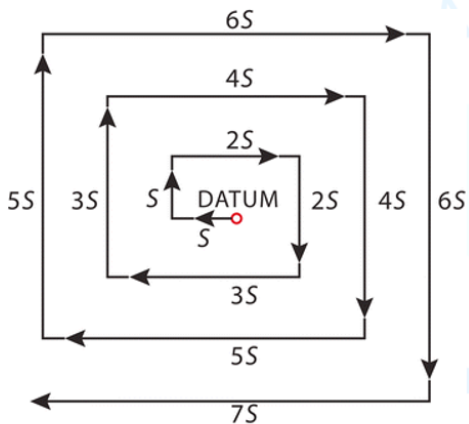


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid



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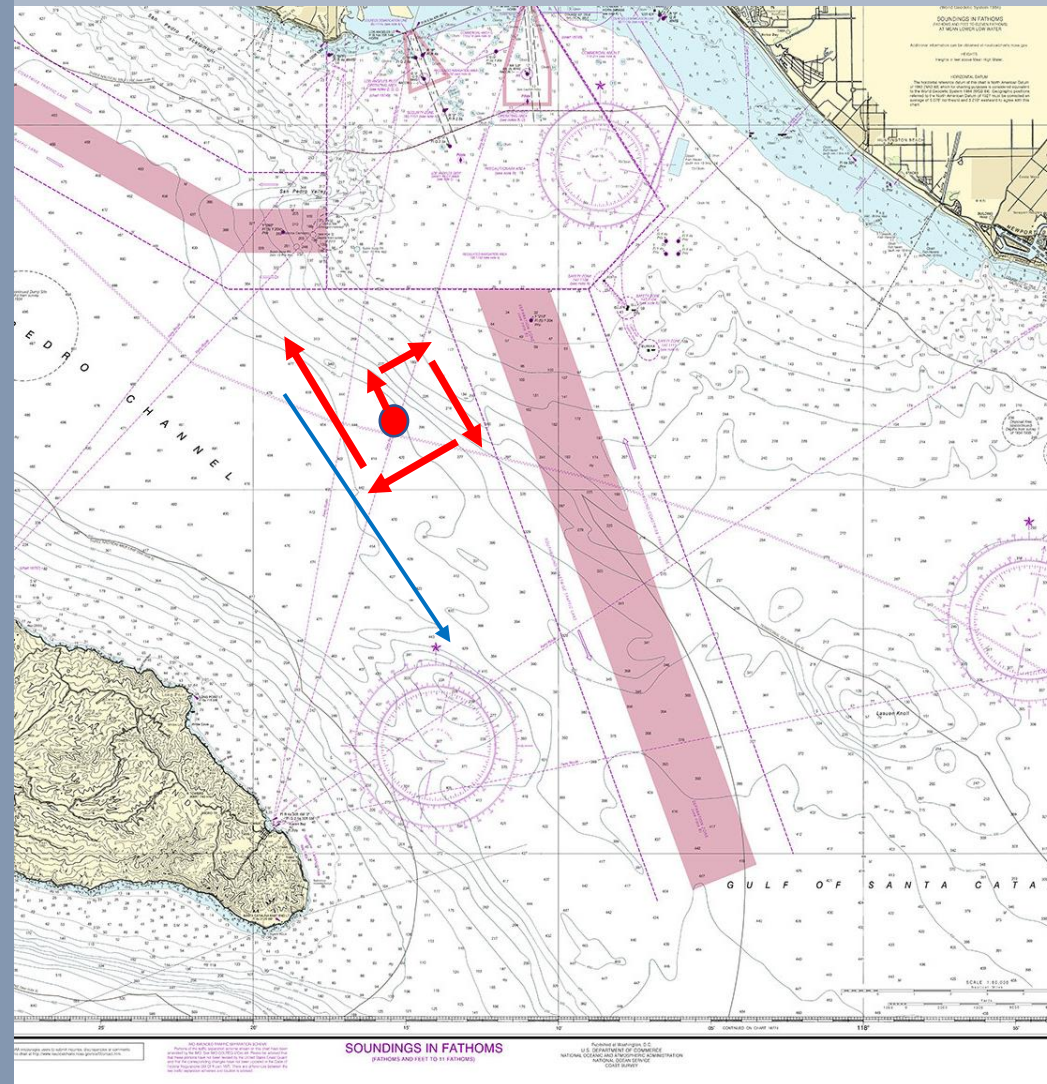
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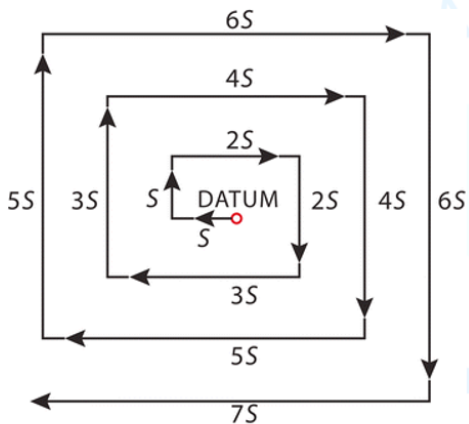


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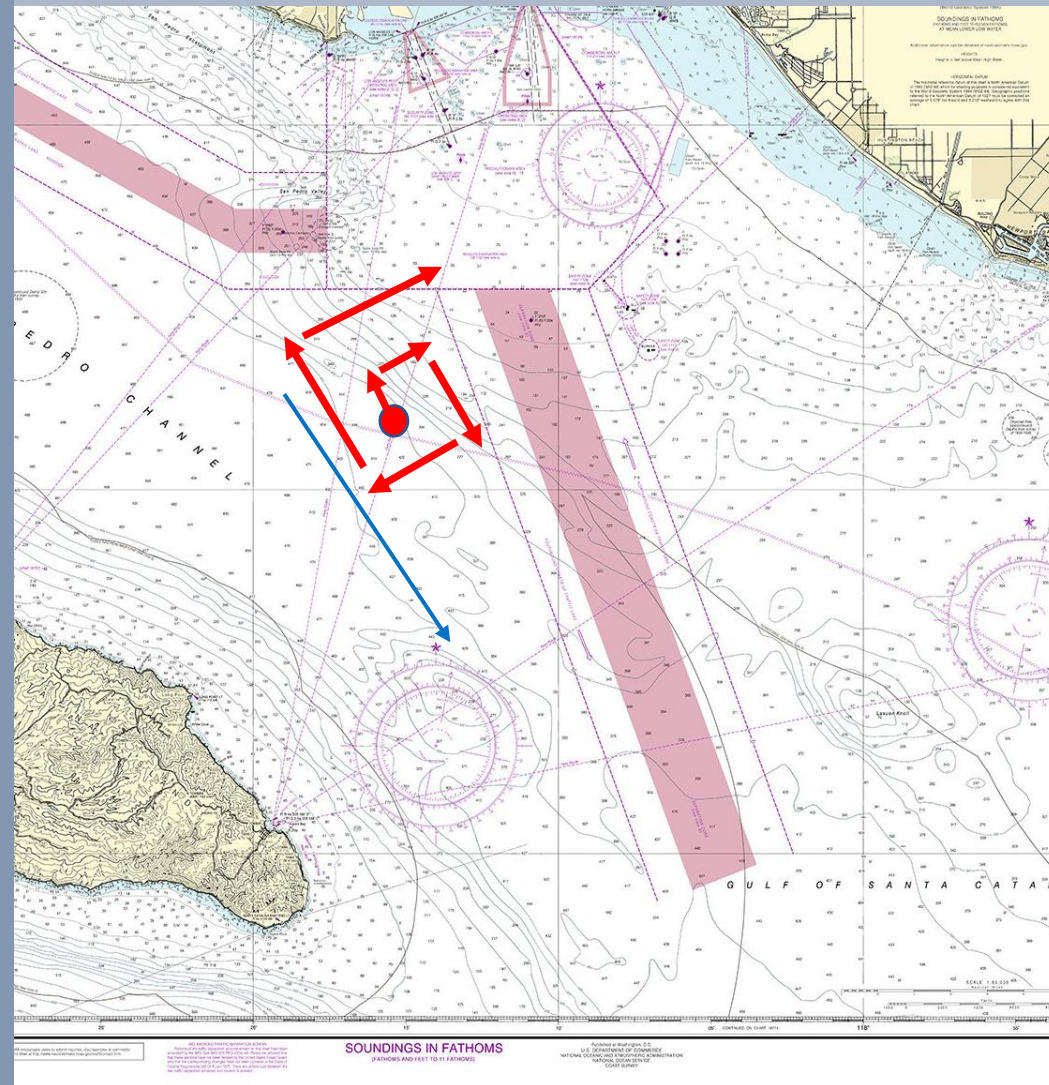
Track Time (minutes) 1 1 2 1 3 2 4 2 5 3 6 3 7    8    9    10   

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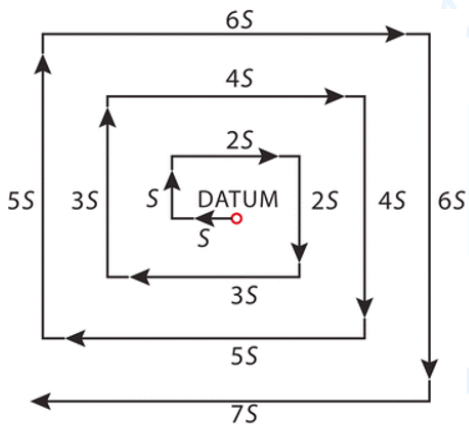


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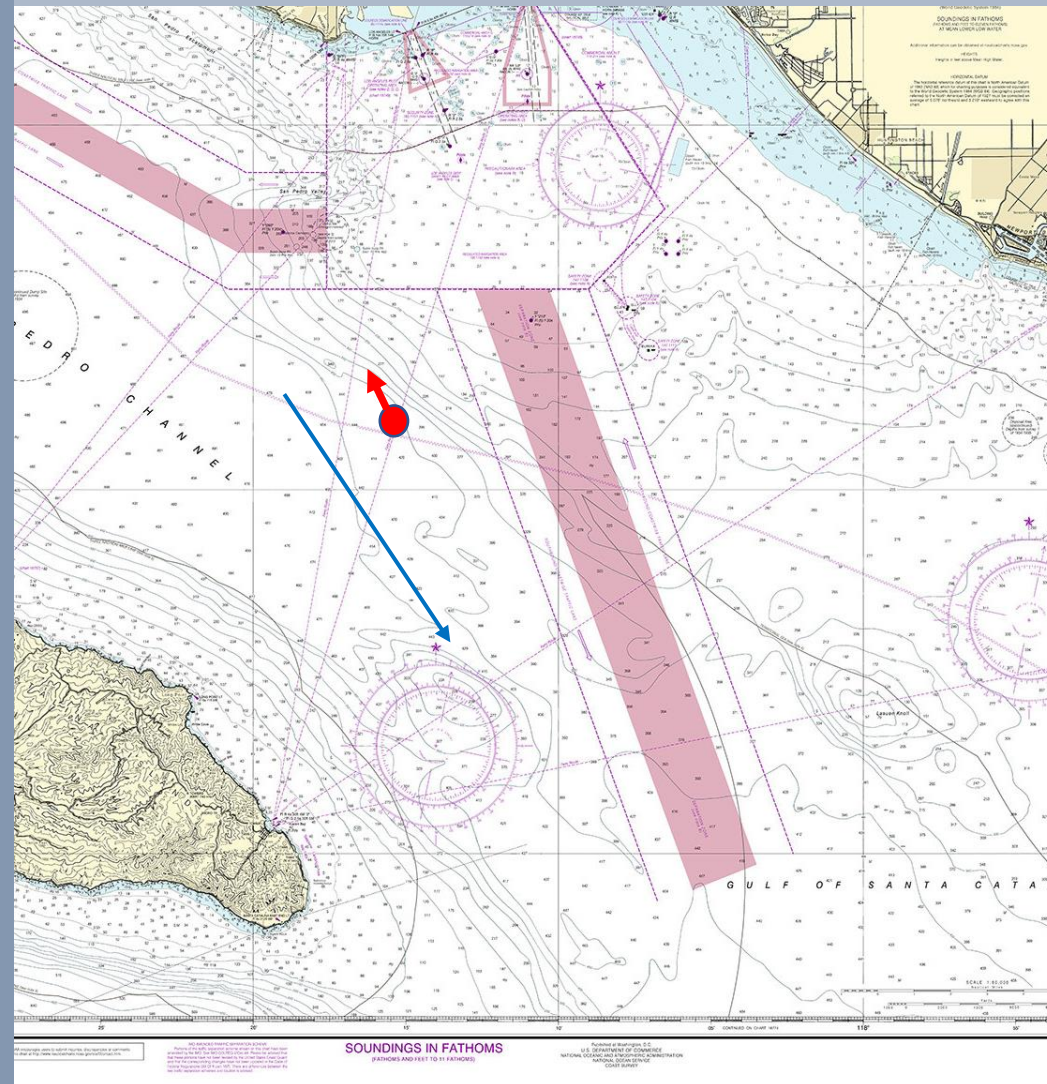
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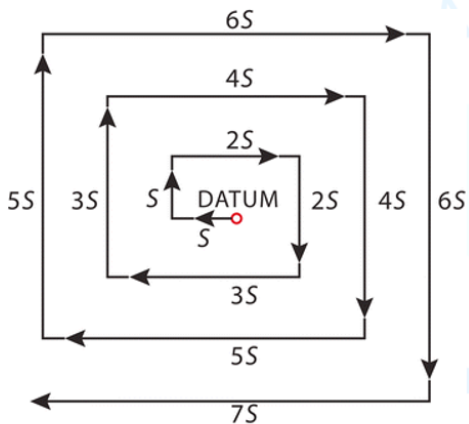


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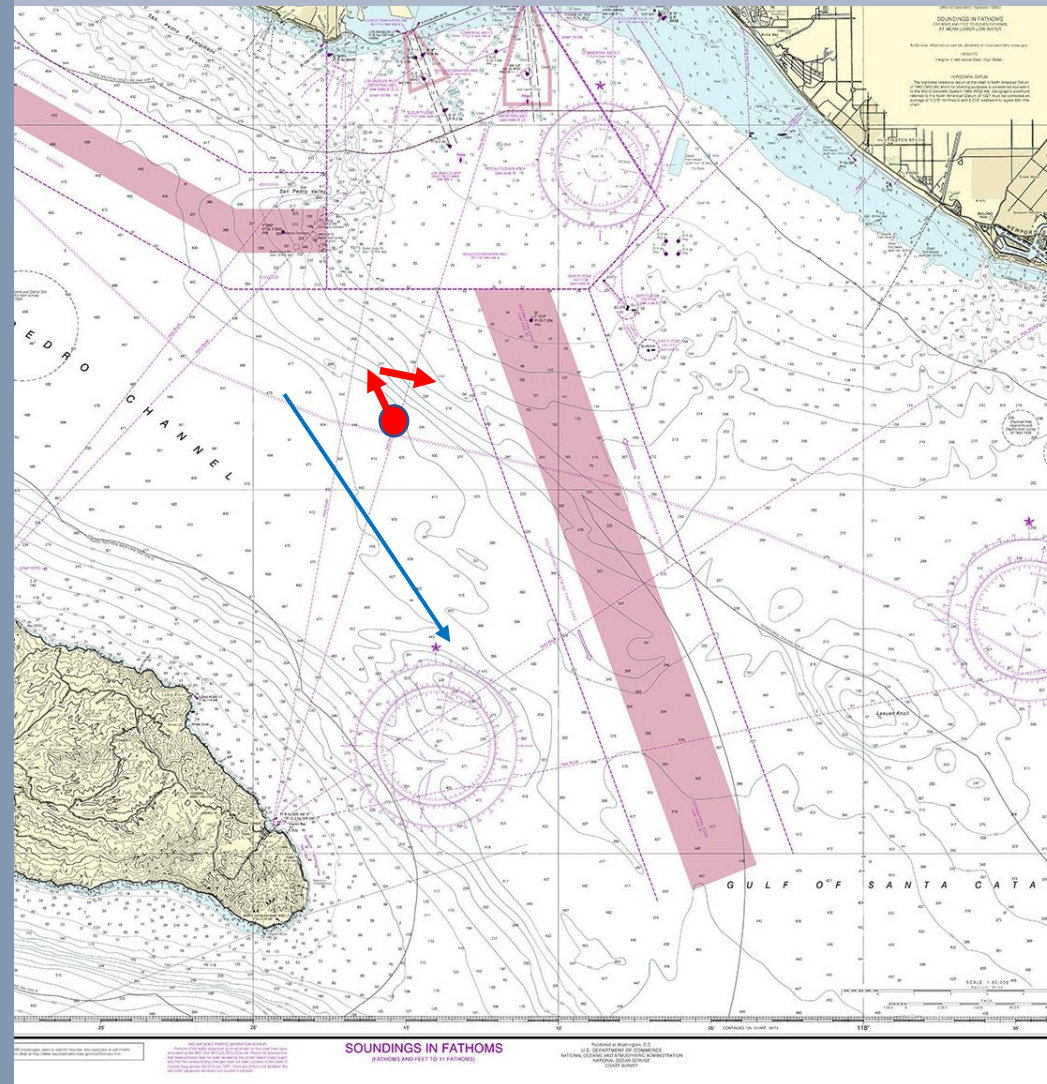
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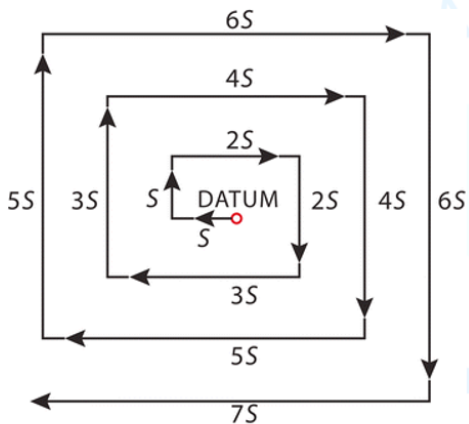


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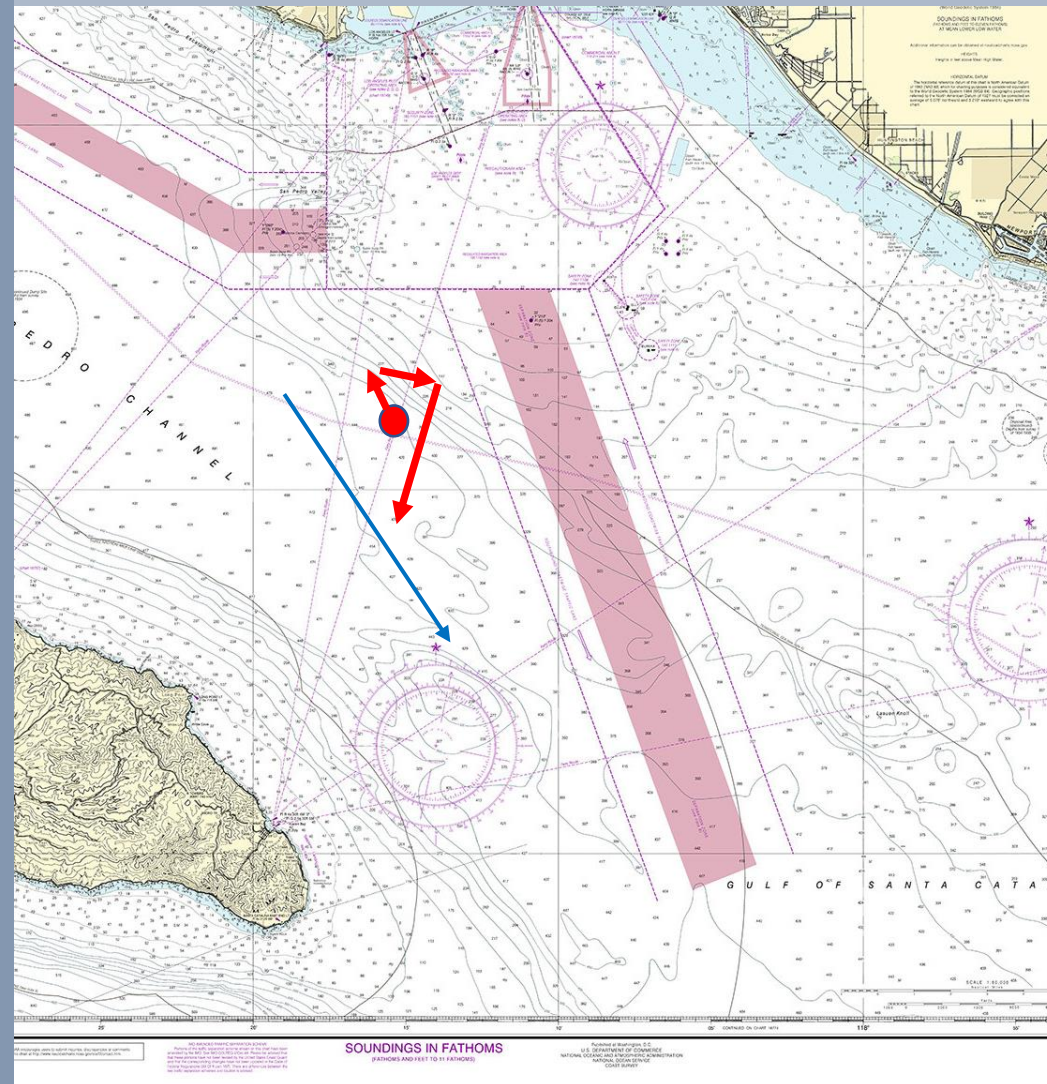
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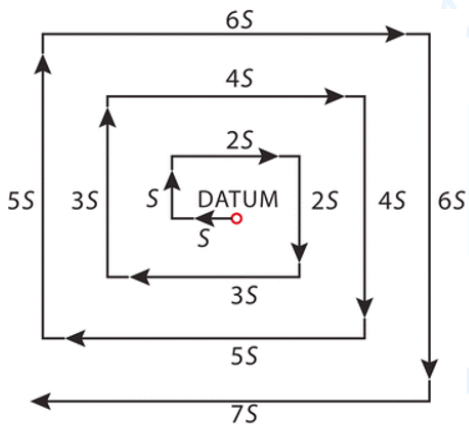


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid

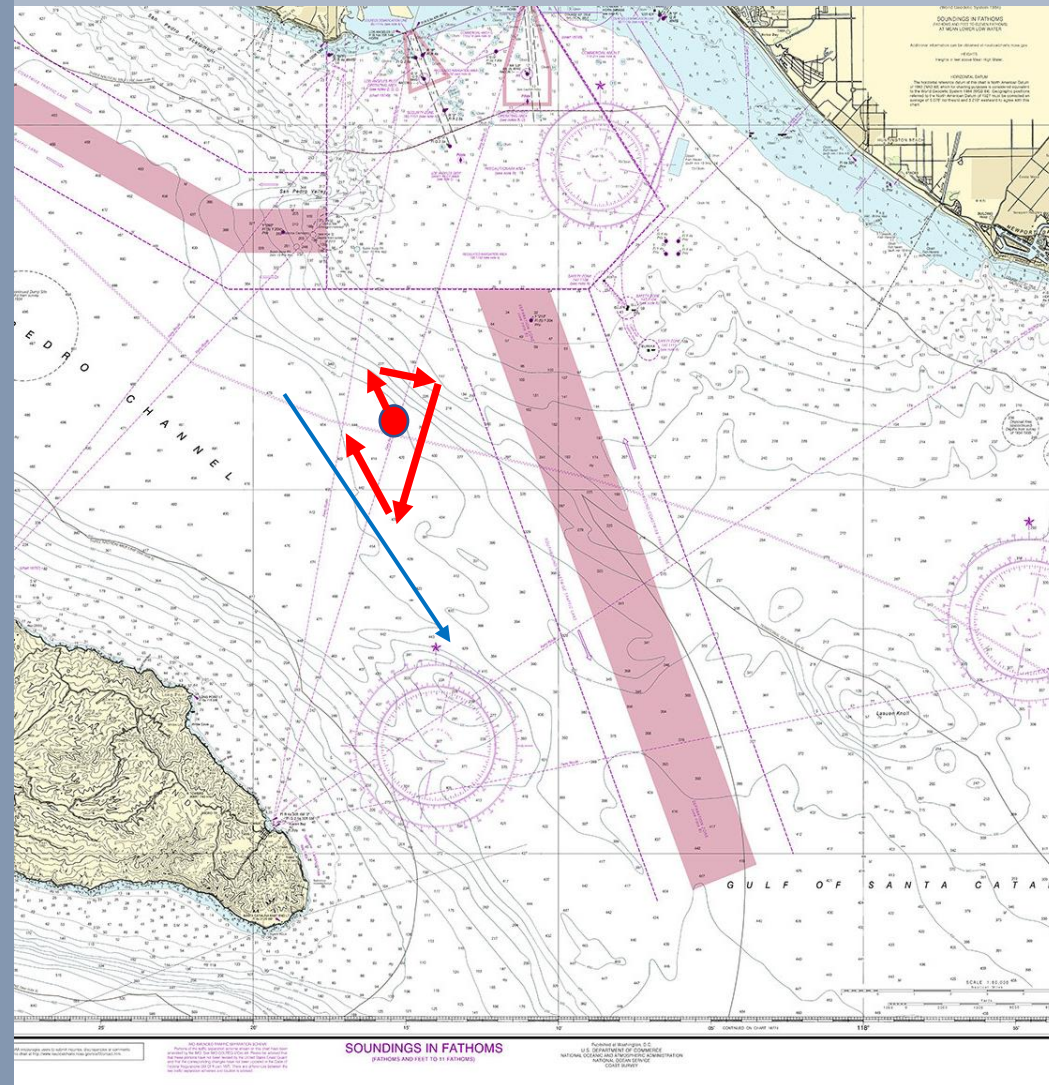


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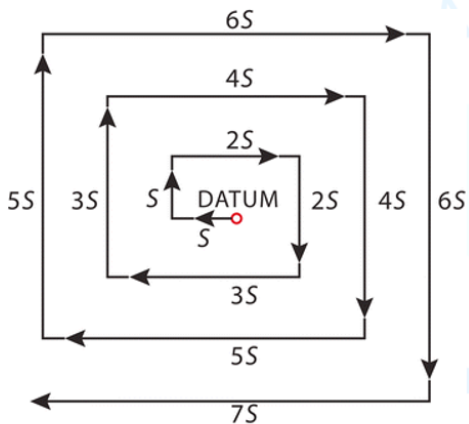


# COLD WATER CASUALTY



## Man Overboard (Expanding Grid Searches)

### Initiating an Expanding Square Search Grid

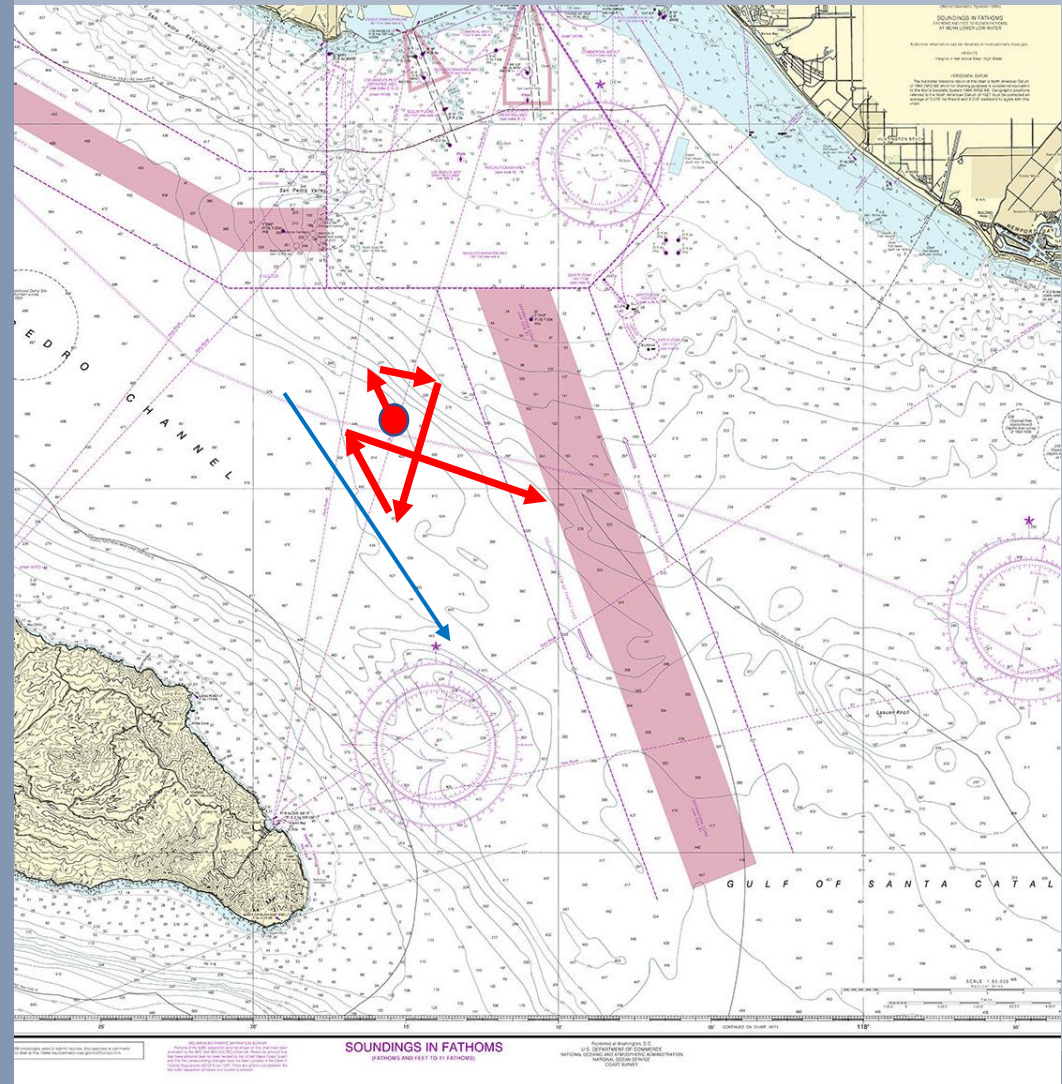


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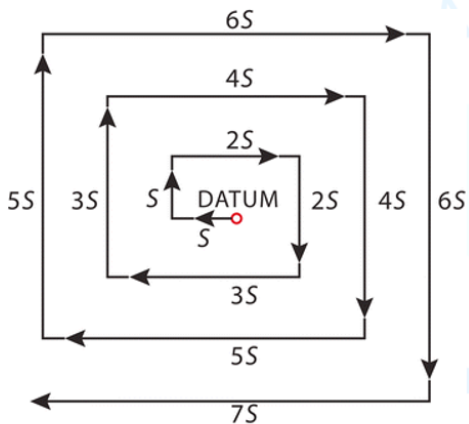


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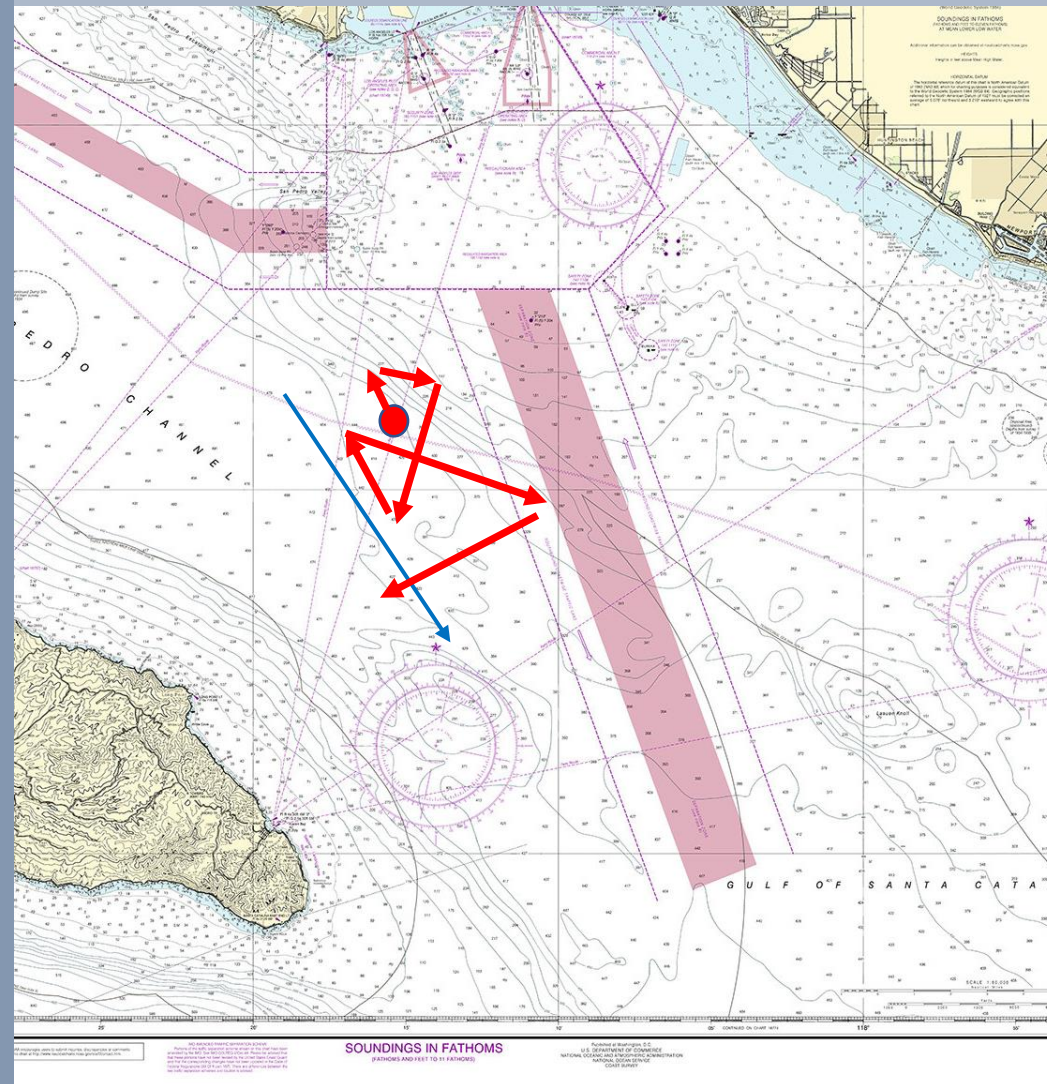
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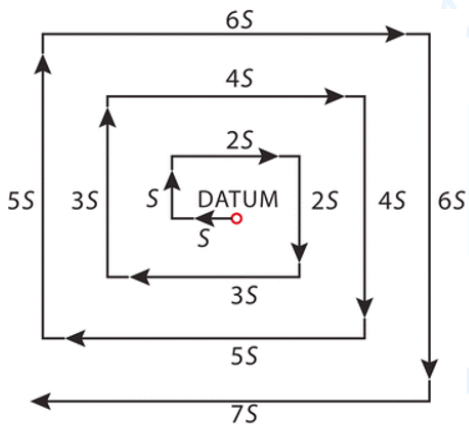


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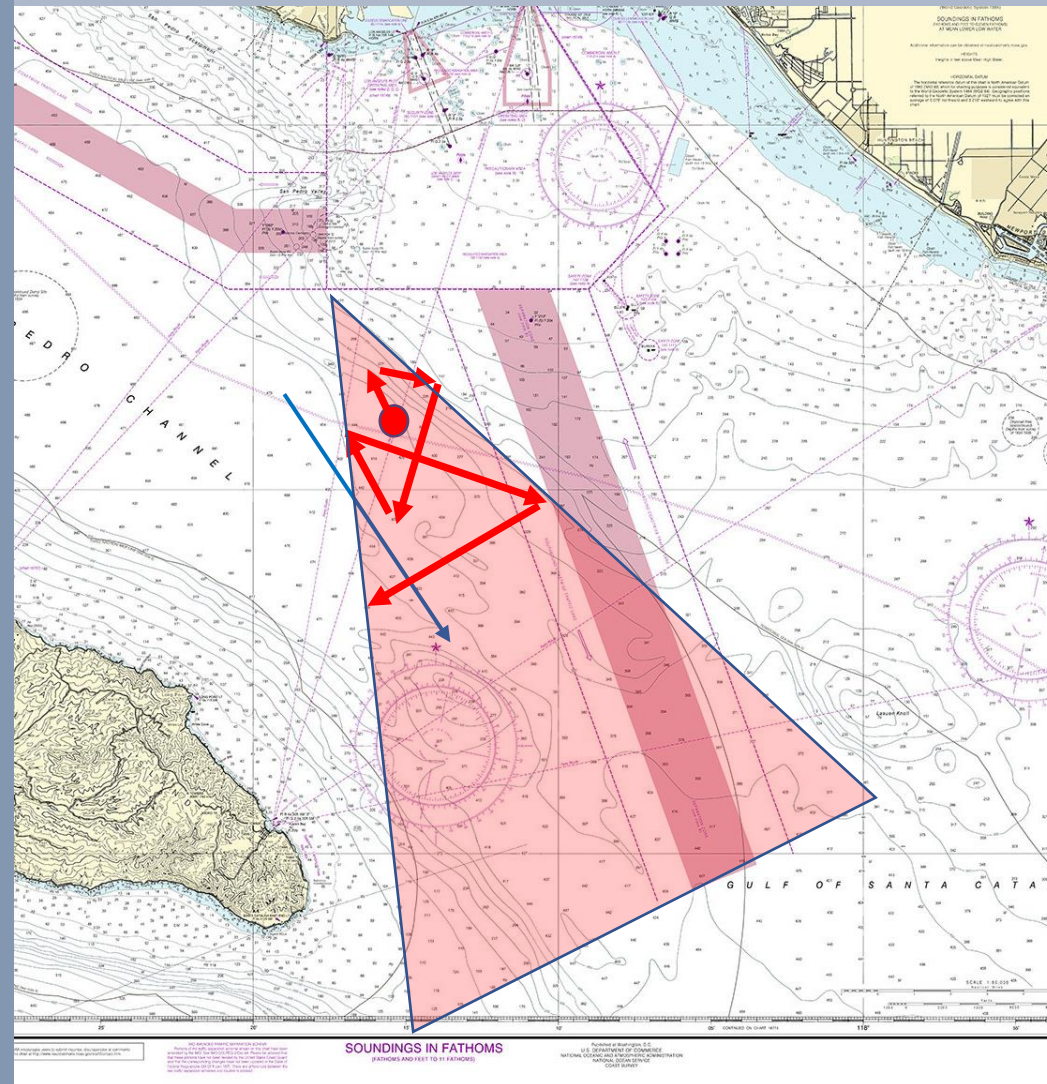
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47 48 49 50 51 52 53 54 55 56 57 58





# COLD WATER CASUALTY



## Man Overboard (Drowning Victims)

- Must complete ‘Rescue Breaths’ before compressions or AED
- Turn victim to ‘Recovery Position’ when fluid rises into mouth
- Listen for gurgling and wheezing
- Begin CPR and continue until unable or when higher care arrives





# COLD WATER CASUALTY



## Man Overboard (Signs of Hypothermia)

- Confusion, memory loss, or slurred speech
- Drop in body temperature below 95 Fahrenheit
- Loss of consciousness
- Numb hands or feet
- Shallow breathing
- Uncontrollable Shivering

# COLD WATER CASUALTY



## Man Overboard (Treatment of Hypothermia)

- Remove casualty from water
- Do NOT overwarm
  - Incremental warming methods: Remove wet clothes; don dry clothes, cover in blankets, skin-to-skin contact, sip warm fluids, keep feet ventilated
- Monitor heart rate and keep casualty alert
- Administer CPR if patient is not breathing
- Do NOT apply warmers or hot water to skin



# COLD WATER CASUALTY



## Man Overboard (Capsize/ Founder)

**1 – 10 – 1**

1- Minute of Breathing Control

10- Minutes of Planning for Survival

1- Hour of Consciousness

### Square Breathing:

- Inhale deeply for 4 seconds
- Hold your lungs full for 4 seconds
- Exhale for 4 seconds
- Hold your lungs empty for 4 seconds





# COLD WATER CASUALTY



## Man Overboard (Capsize/ Founder)

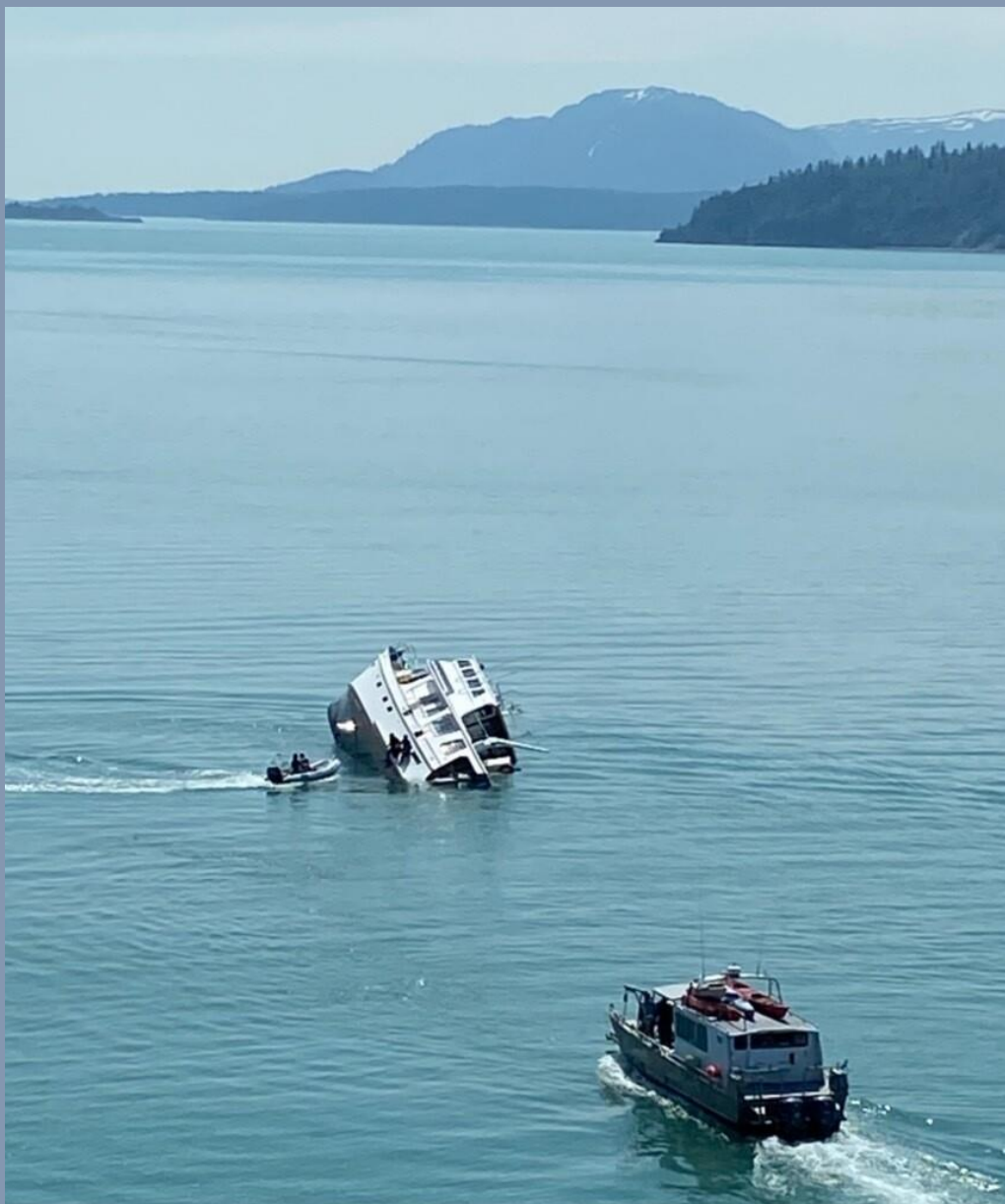
Improper Weight Distribution and Tie-Downs

Increased water levels in Buoyancy Voids

Waves/ Inclement Weather

- Tidal breaks
- Following Seas
- Cross-Seas (Confused Seas)
- Tsunami/ Tidal/ Rogue Wave

Stern Slipping at High Speeds



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# Abandoning Ship



# Abandoning Ship



## Emergency Abandon Ship

**Instructions:** Use this checklist to guide you through the procedures to prepare for evacuation of crew and passengers. **STEP 1:** Conduct 'Immediate Response' procedures. **STEP 2:** Make VHF Radio Call. **STEP 3:** Inform passengers and direct crewmembers to gather tools **STEP 4:** Deploy life rafts **STEP 5:** Make final radio call **STEP 6:** Abandon vessel and take command of life raft

### IMMEDIATE RESPONSE

- Notify crew of intention to 'Abandon Ship'
- Sound 7-Short/ 1-Long blasts from horn
- Instruct crew to gather Tools in Section 3
- Initiate radio call listed in Section 2

### SECTION 2: RADIO CALL (VHF 16)

- Select highest broadcast setting (amps)
- If enabled, press 'Distress Button' or DSC
- Key microphone, breathe deeply, and begin radio call in a slow, and clear voice.

"MAYDAY, MAYDAY, MAYDAY.

This is \_\_\_\_\_ (3X),

MAYDAY, this is \_\_\_\_\_.

My position is \_\_\_\_\_,

in the vicinity of \_\_\_\_\_.

We are abandoning ship and evacuating # \_\_\_\_\_

souls (into # \_\_\_\_\_ life rafts) (into the water).

Requesting immediate rescue. Lookout for:

- INFRARED BEACON
- \_\_\_\_\_ COLORED SMOKE
- \_\_\_\_\_ COLORED FLARES
- \_\_\_\_\_ COLORED SEA-DYE

### SECTION 3: TOOLS RESOURCES

- EPIRB \_\_\_\_\_
- Rescue Signals \_\_\_\_\_
- Manifest \_\_\_\_\_
- VHF Radio \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Use Degree Decimal Minute Second (DDMS) format (ex: 'N 30 14.537 W 88 18.372' is read as: "30 tack 14 decimal 537 North, by 88 tack 18 decimal 372 West")

(Island, Point, Bay, Harbor, Inlet, Region)

**Repeat full broadcast until you receive acknowledgment from the U.S.C.G. or until it is no longer safe to remain on board.**



## General Procedures for Ditching

### Conduct 'Immediate Response' Checklist

- Notify Crew of Intent to Leave Vessel
- Sound 7-Short/ 1-Long blast of a signal device
- Assign crewmembers to locate and secure rescue items
- Notify Passengers of Intent to Leave Vessel

### Initiate "MAYDAY" call over VHF Radio

- If possible, continue to repeat scripted call until no longer safe to do so

# Abandoning Ship



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### Initiate "MAYDAY" call over VHF Radio

- If possible, continue to repeat scripted call until no longer safe to do so

### Survival items should be consolidated in a dry bag

- Regular inspections of your dry bag are paramount to survival
- Dry bag should have easily attachable/detachable device (ie: D-Ring)



# Abandoning Ship



## Emergency Abandon Ship

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### SECTION 4: CREW INSTRUCTIONS

- Assign a crewmember to assist passengers in donning lifejackets and removing hazards to life raft
- Instruct crew to prepare exit platform by lashing hand-holds and cutting obstructions, to leeward
- Instruct all-crew to lash life rafts to leeward and await orders to enter.
- Order 'all-stop' to motors and activate fuel shut-offs

### SECTION 5: DEPLOY LIFE RAFT

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Do not deploy life raft into oil slicks or flames

Do not pull painter-line taut until raft is on the desired side of the vessel

Check for entanglement hazards prior to deploying raft over decking

### SECTION 6: PREPARE TO EXIT VESSEL

- Search the surrounding area for hazards (rocks, oil slick, electrical cables, entanglement hazards, electrical cables/ wires)
- Lash tools and emergency equipment to life raft
- Note time and GPS Location
- Make final evacuation radio call:

"MAYDAY, MAYDAY, MAYDAY..."

This is the \_\_\_\_\_.

This is our final transmission. We are abandoning ship at \_\_\_\_\_.

This is the \_\_\_\_\_.

Out."

- Turn radio volume to "Max" prior to leaving helm station

### SECTION 6: EVACUATE

- Load at least one strong crewmember first to assist with passengers
- Balance weight of passengers throughout the life raft, in far corners from one-another
- Use extra moorage line to tie around the waist of weak or injured passengers during transfer
- Use knife to cut-away from the vessel, located in life raft kit
- Immediately assign lookout for rescue vessels and do not use signal devices until rescue seems imminent.

## General Procedures for Ditching

### Preparing the Crew and Passengers

-Check Life Jackets are appropriately fitted by pulling up on the jacket. It should not rise above the head.

-Instruct all aboard to remove puncture hazards (pens, hair clips, open knives, etc)

-Create handholds by lashing line in large loops around the rails and fixed points along the leeward side

# Abandoning Ship



## Emergency Abandon Ship

**Instructions:** Use this checklist to guide you through the procedures to prepare for evacuation of crew and passengers. **STEP 1:** Conduct 'Immediate Response' procedures. **STEP 2:** Make VHF Radio Call. **STEP 3:** Inform passengers and direct crewmembers to gather tools **STEP 4:** Deploy life rafts **Step 5:** Make final radio call **STEP 6:** Abandon vessel and take command of life raft

### SECTION 4: CREW INSTRUCTIONS

- Assign a crewmember to assist passengers in donning lifejackets and removing hazards to life raft
- Instruct crew to prepare exit platform by lashing hand-holds and cutting obstructions, to leeward
- Instruct all-crew to lash life rafts to leeward and await orders to enter.
- Order 'all-stop' to motors and activate fuel shut-offs

### SECTION 5: DEPLOY LIFE RAFT

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### Life Raft Considerations

-Identify hazards and manipulate the raft into a safe position before inflating

-If Fire or flammable fluid is present, deploy from the windward side of the vessel

-Lash survival equipment to the raft, not individuals

# Abandoning Ship



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**Check for entanglement hazards prior to deploying raft over decking**

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## General Procedures for Ditching

Make final broadcast with an updated GPS Location

Leave radio on full volume prior to leaving the helm



# Abandoning Ship



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## General Procedures for Ditching

Make final broadcast with an updated GPS Location

Leave radio on full volume prior to leaving the helm

Initiate order to load rafts

-Assign crewmembers to assist passengers

-Load raft with alternating corner placement

-Use any available line to secure weak or injured passengers, handing the line over after passenger is in the raft

-If able, remain attached to the vessel until no longer safe

-Assign rescue lookouts

-Inventory all supplied and personal items on board



# Vessel Towing

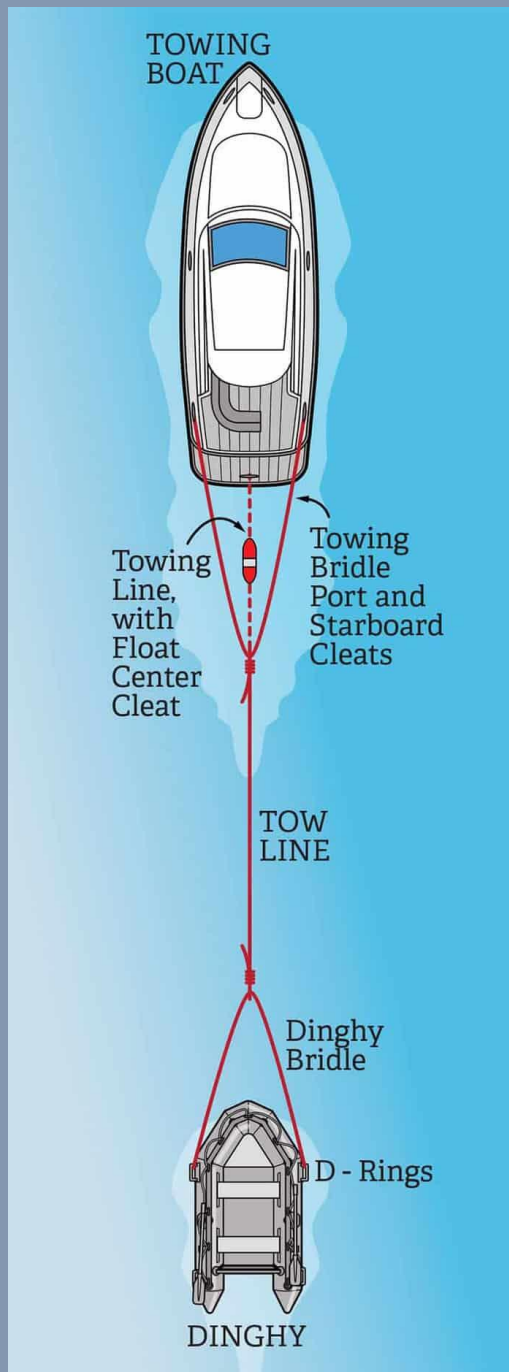
## General Procedures for Towing

Do not tow vessels in tidal areas

Nylon or other strong, stretchy line is ideal

Do not carry passengers in towed vessel

Identify rebound areas and keep them clear of passengers and crew



# Vessel Towing



## General Procedures for Towing

Do not tow vessels in tidal areas

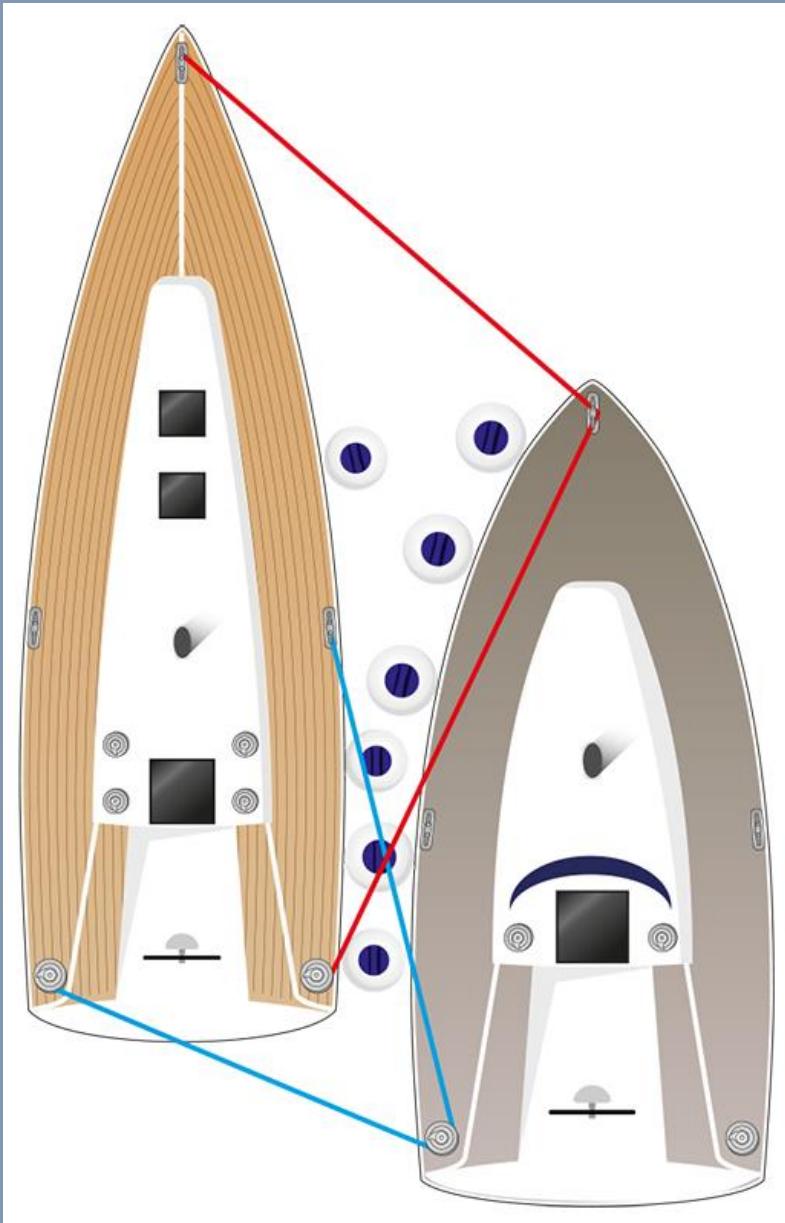
Nylon or other strong, stretchy line is ideal

Do not carry passengers in towed vessel

Identify rebound areas and keep them clear of passengers and crew

'Hip-Towing' increases control of towed vessel

Make "SECRURITE" call and announce your restricted ability maneuver



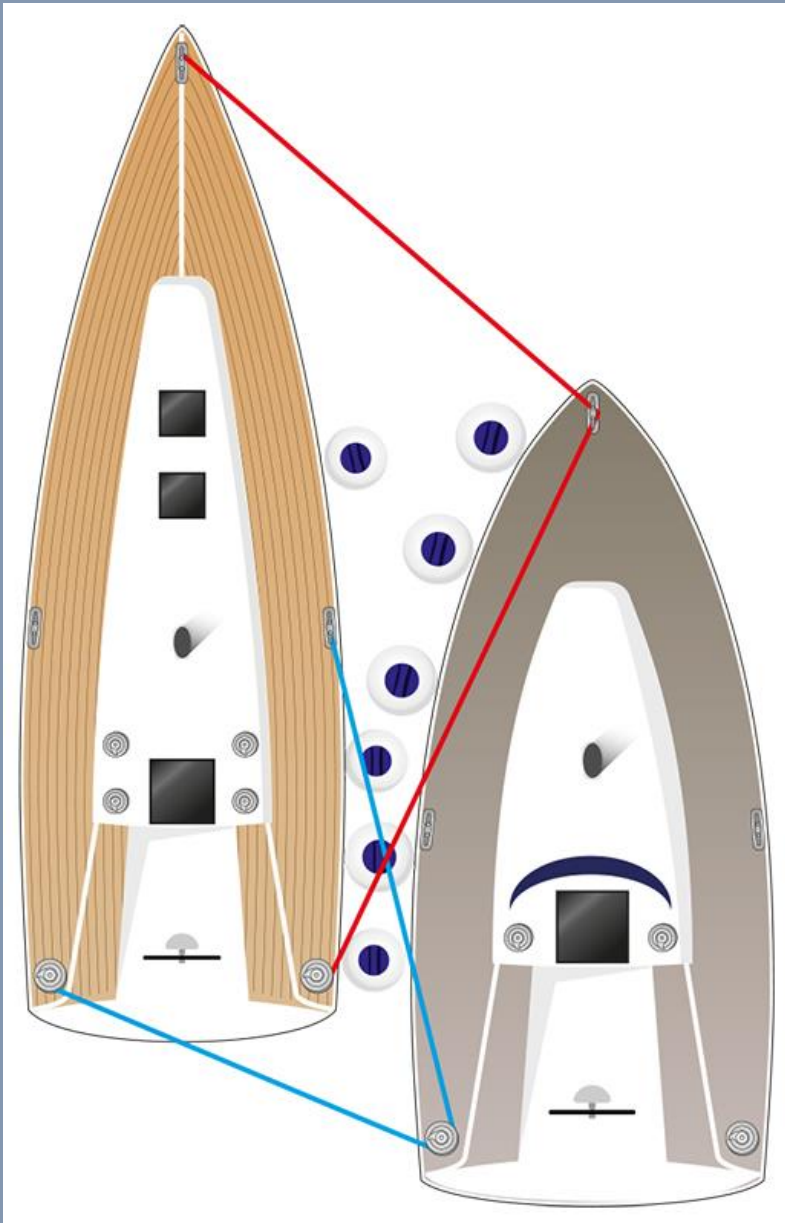


# Vessel Towing



## General Procedures for Towing

ESTABLISH A DESTINATION BEFORE TOWING



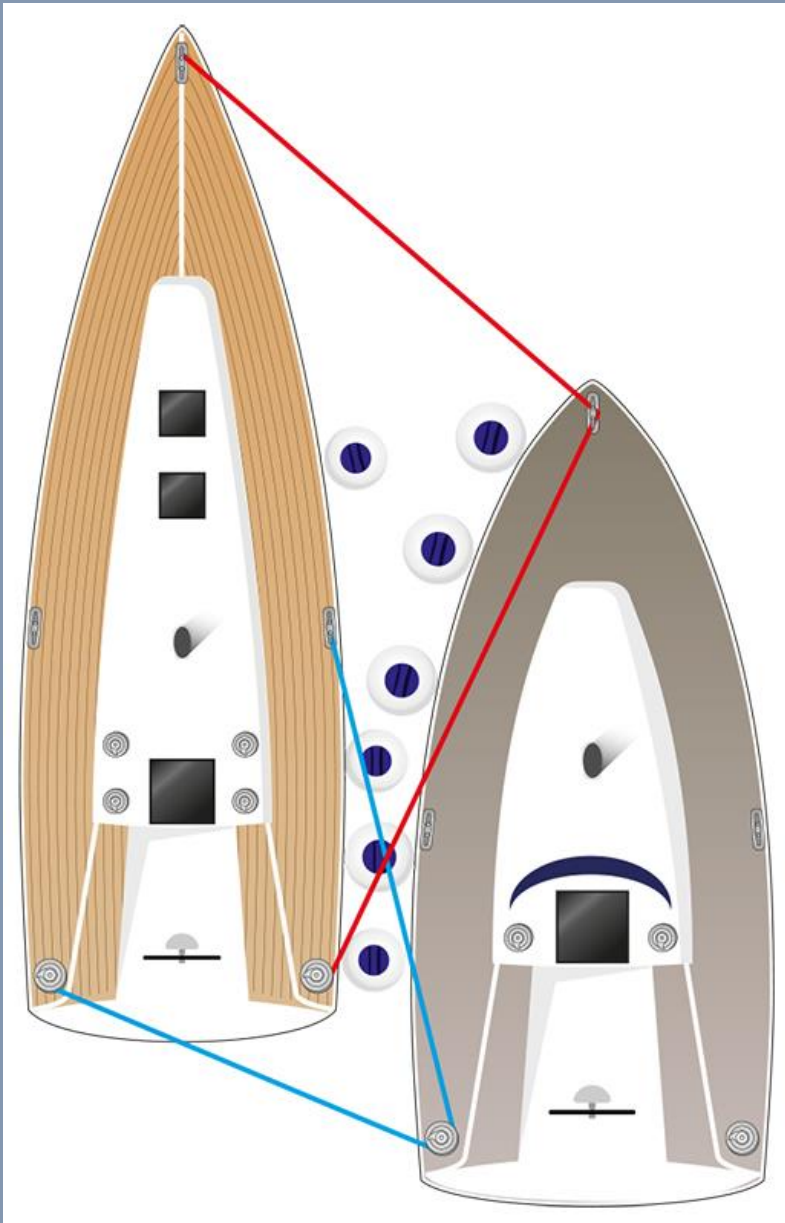
# Vessel Towing



## General Procedures for Towing

ESTABLISH A DESTINATION BEFORE TOWING

ESTABLISH A FORM OF COMMUNICATION



# Vessel Towing

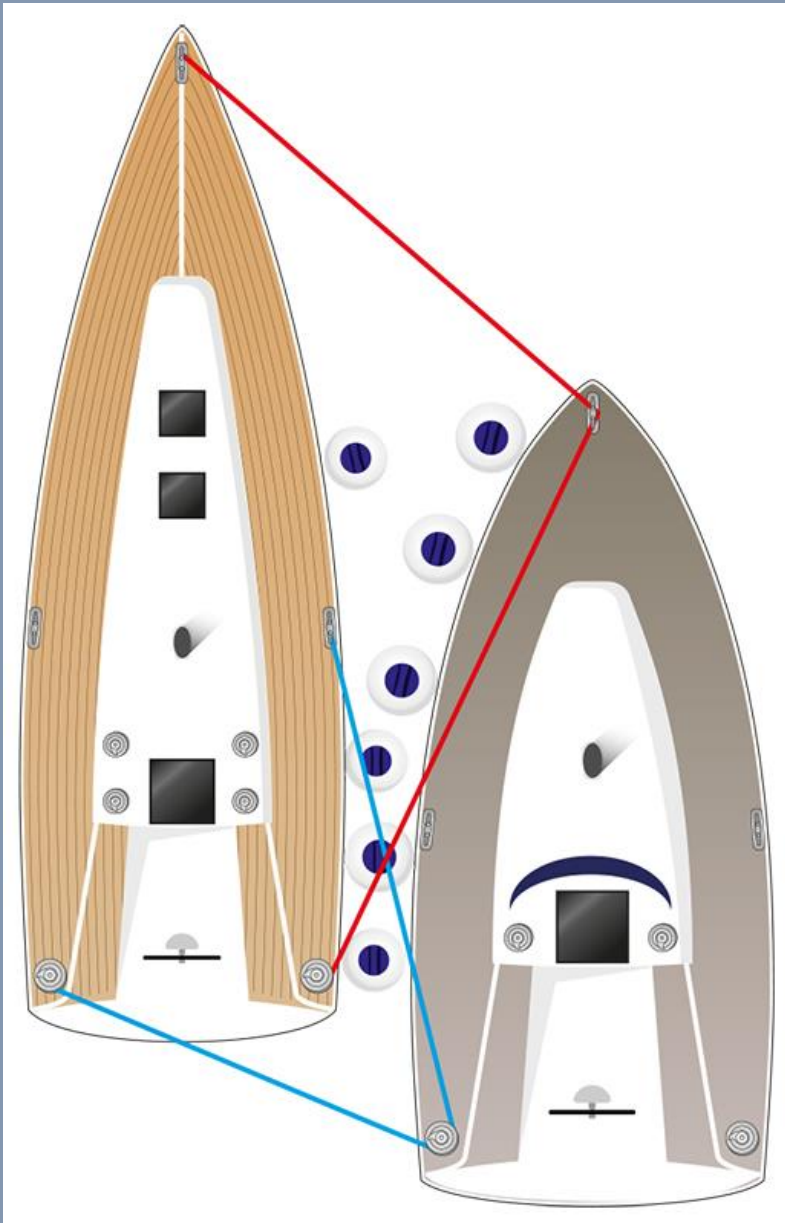


## General Procedures for Towing

ESTABLISH A DESTINATION BEFORE TOWING

ESTABLISH A FORM OF COMMUNICATION

ASSIGN LOOKOUTS AND KEEP WATCH





# Vessel Towing



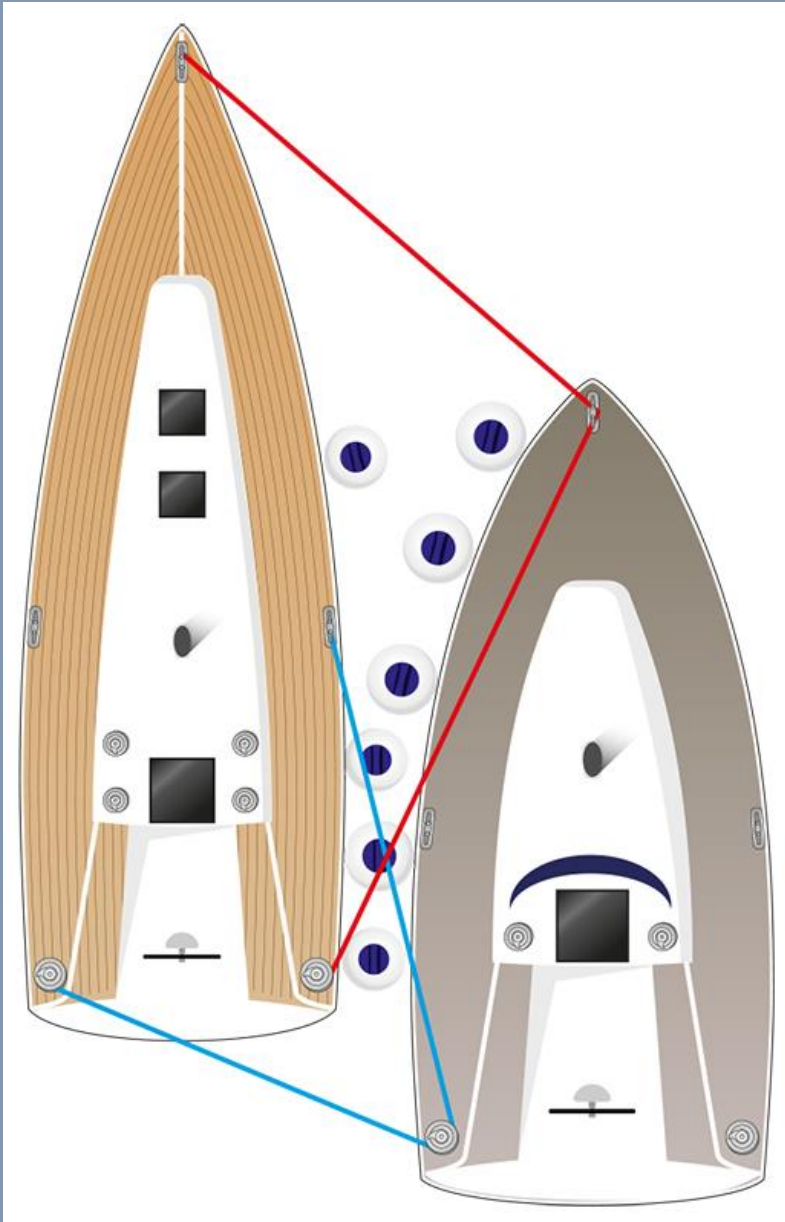
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ESTABLISH A DESTINATION BEFORE TOWING

ESTABLISH A FORM OF COMMUNICATION

ASSIGN LOOKOUTS AND KEEP WATCH

ADJUST LENGTH TO ACHIEVE SYNCRONEOUS WAVES



# Vessel Towing



## General Procedures for Towing

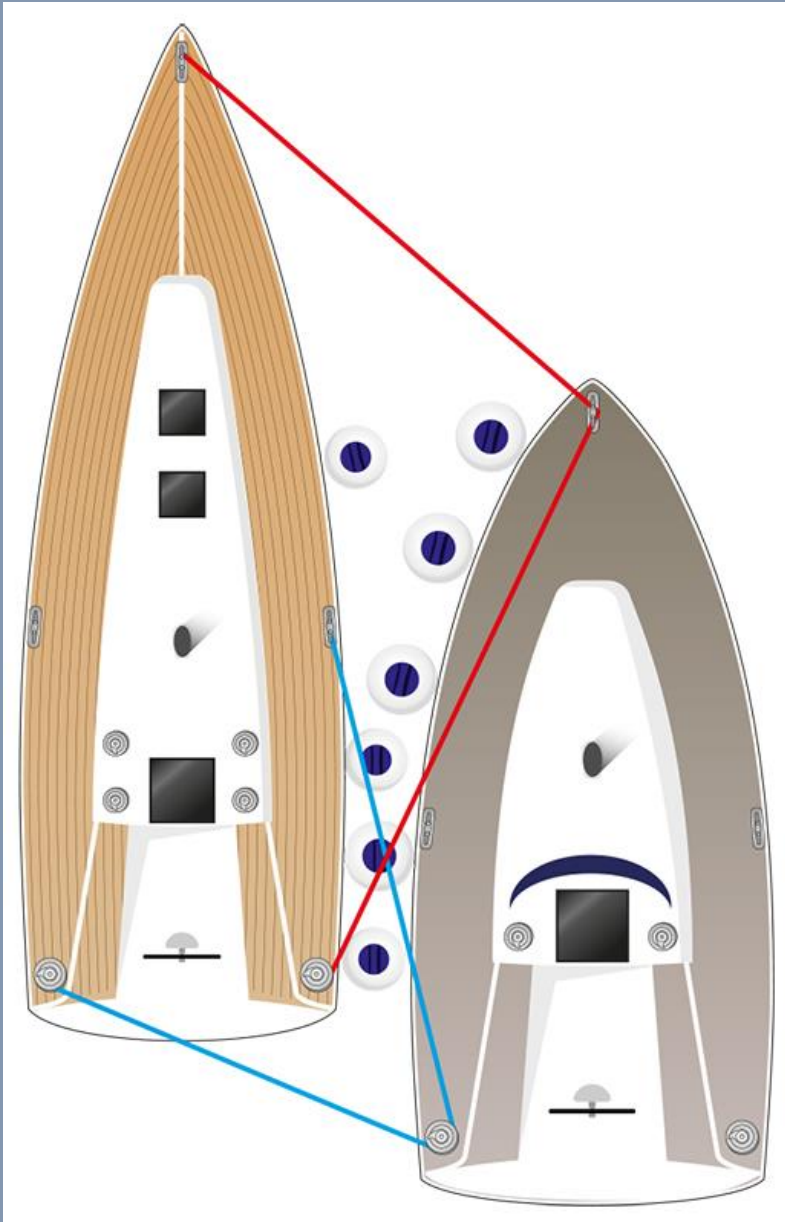
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ASSIGN LOOKOUTS AND KEEP WATCH

ADJUST LENGTH TO ACHIEVE SYNCRONEOUS WAVES

REDUCE TOWLINE CHAFFING



# Vessel Towing



## General Procedures for Towing

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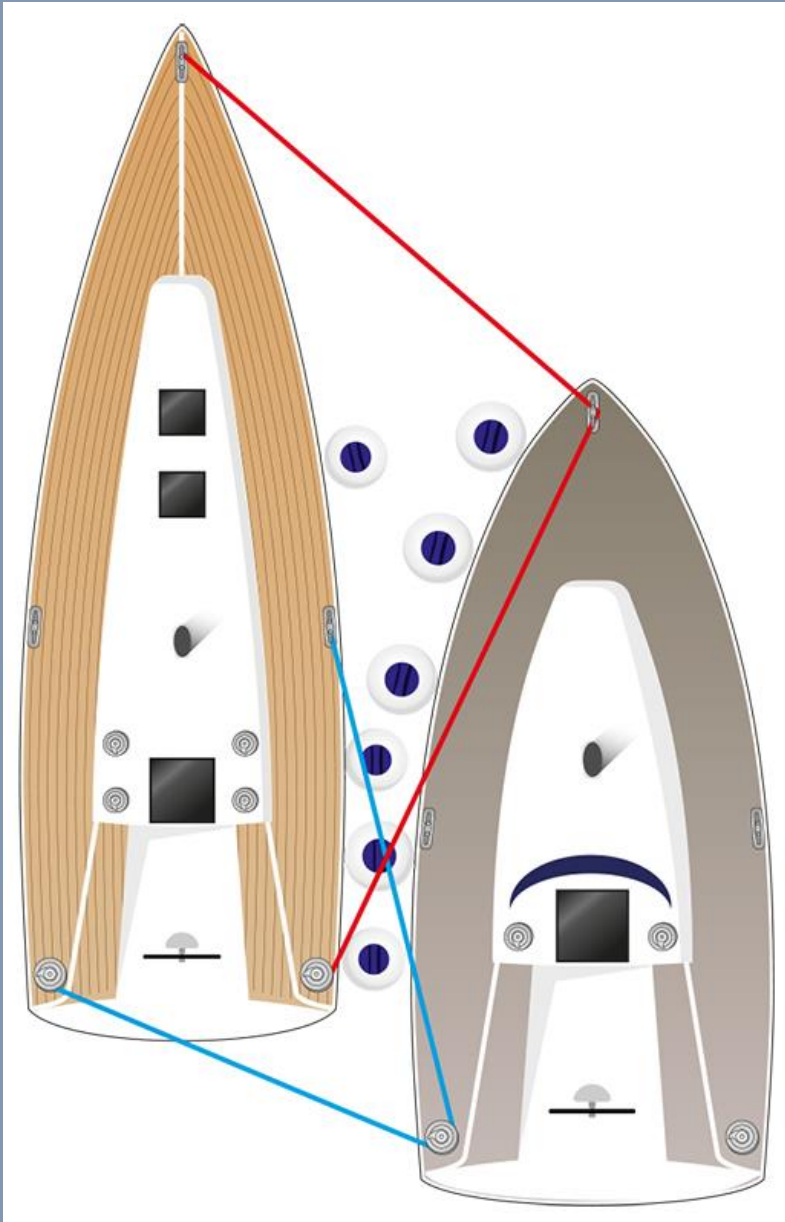
ESTABLISH A FORM OF COMMUNICATION

ASSIGN LOOKOUTS AND KEEP WATCH

ADJUST LENGTH TO ACHIEVE SYNCRONEOUS WAVES

REDUCE TOWLINE CHAFFING

DO NOT 'HIP TOW' IN FOLLOWING SEAS





# Vessel Towing



## Transferring Passengers

Similar Line Assembly as 'Hip Towing'. Add short spans of line between vessels

Only the disabled vessel should place fenders

Assign a Lookout to warn of approaching waves or wakes

Identify at least 3-points of contact

Do not 'span' the two boats





# QUESTIONS