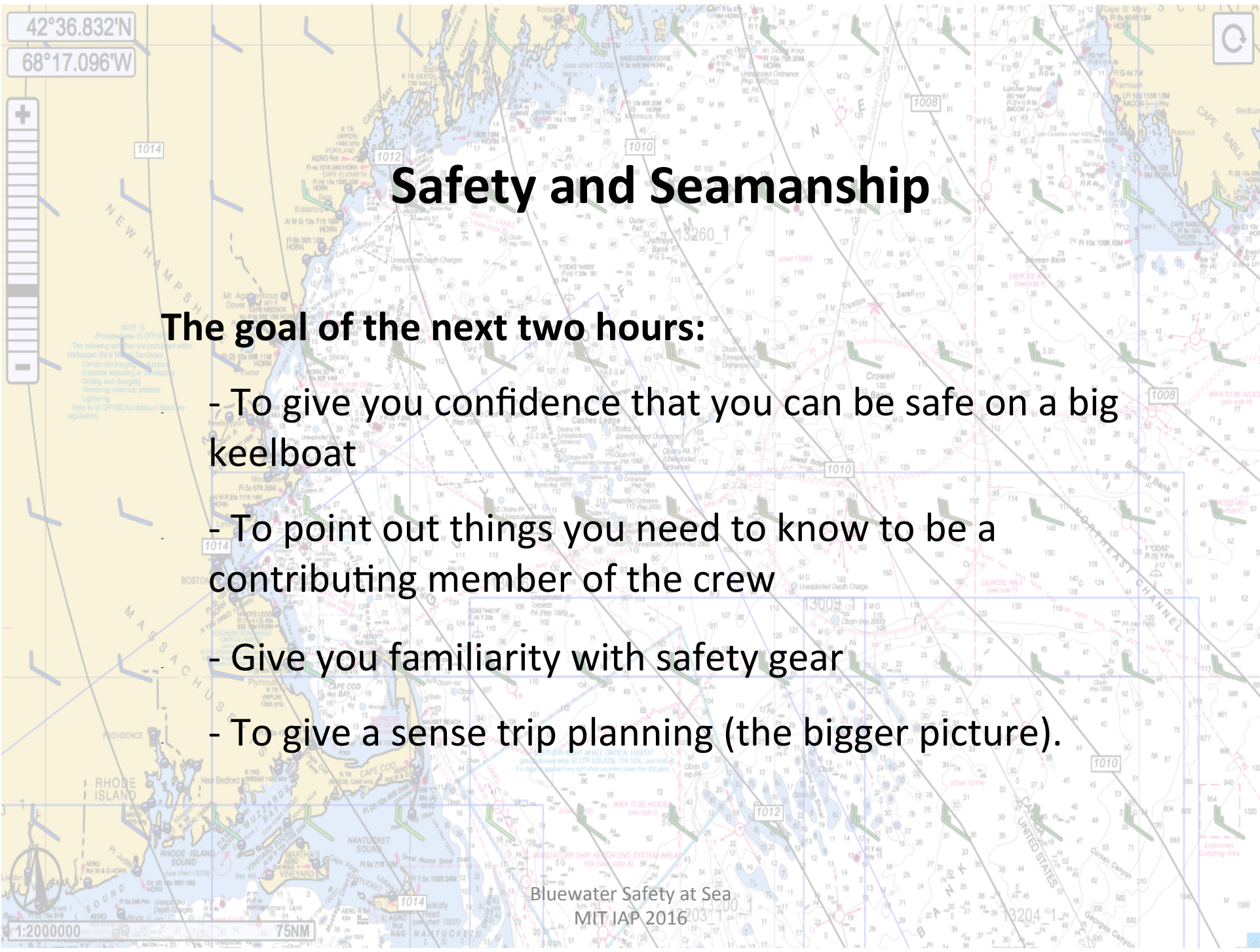


NOTE E
TRAFFIC SEPARATION SCHEME
Recommended traffic lanes established in Santa Barbara and San Pedro Channels are shown on charts 18022, 18720, 18740, and 18746.

Safety and Seamanship

Scott Dynes
MIT Bluewater Skipper

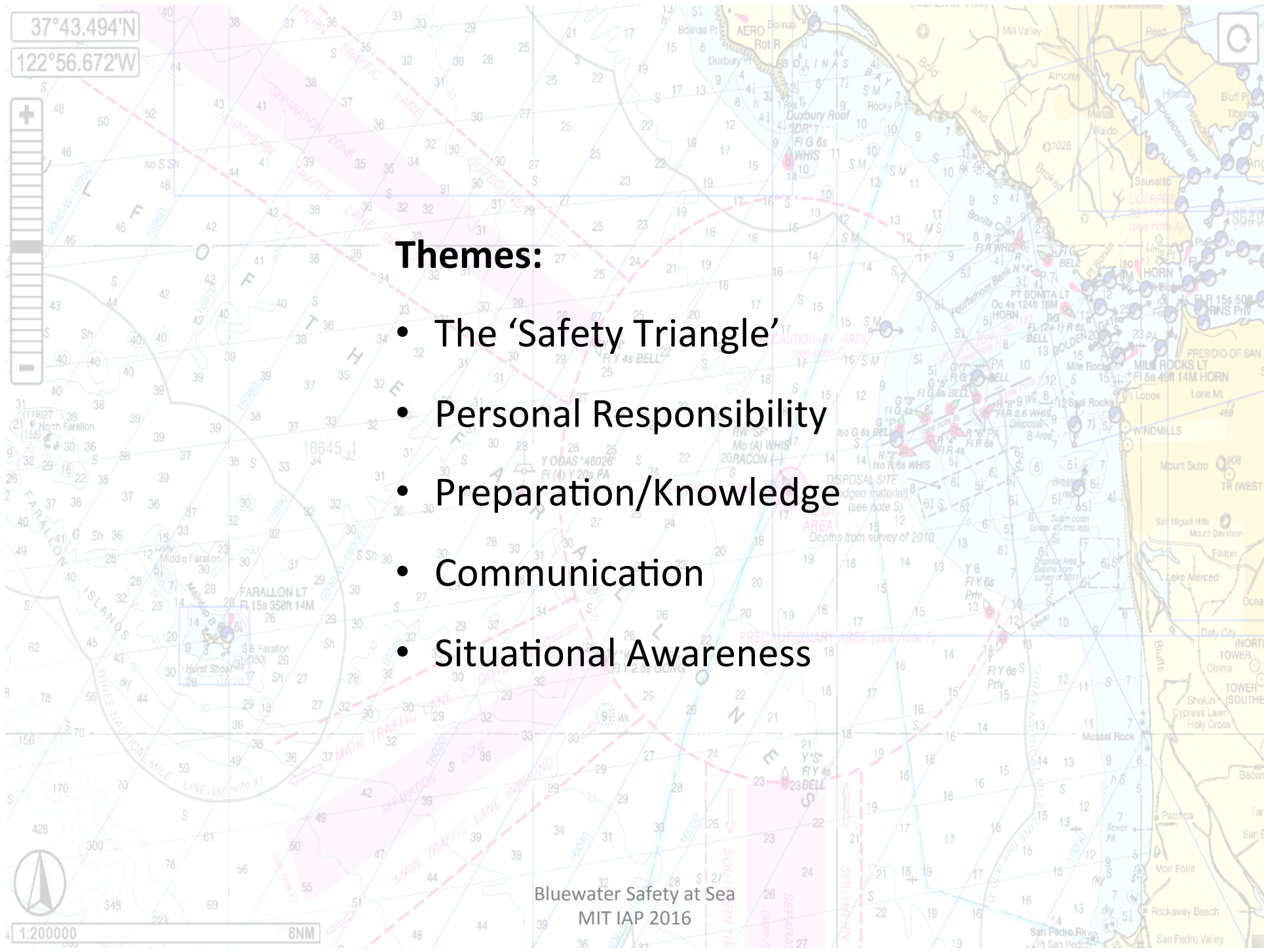
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Safety and Seamanship

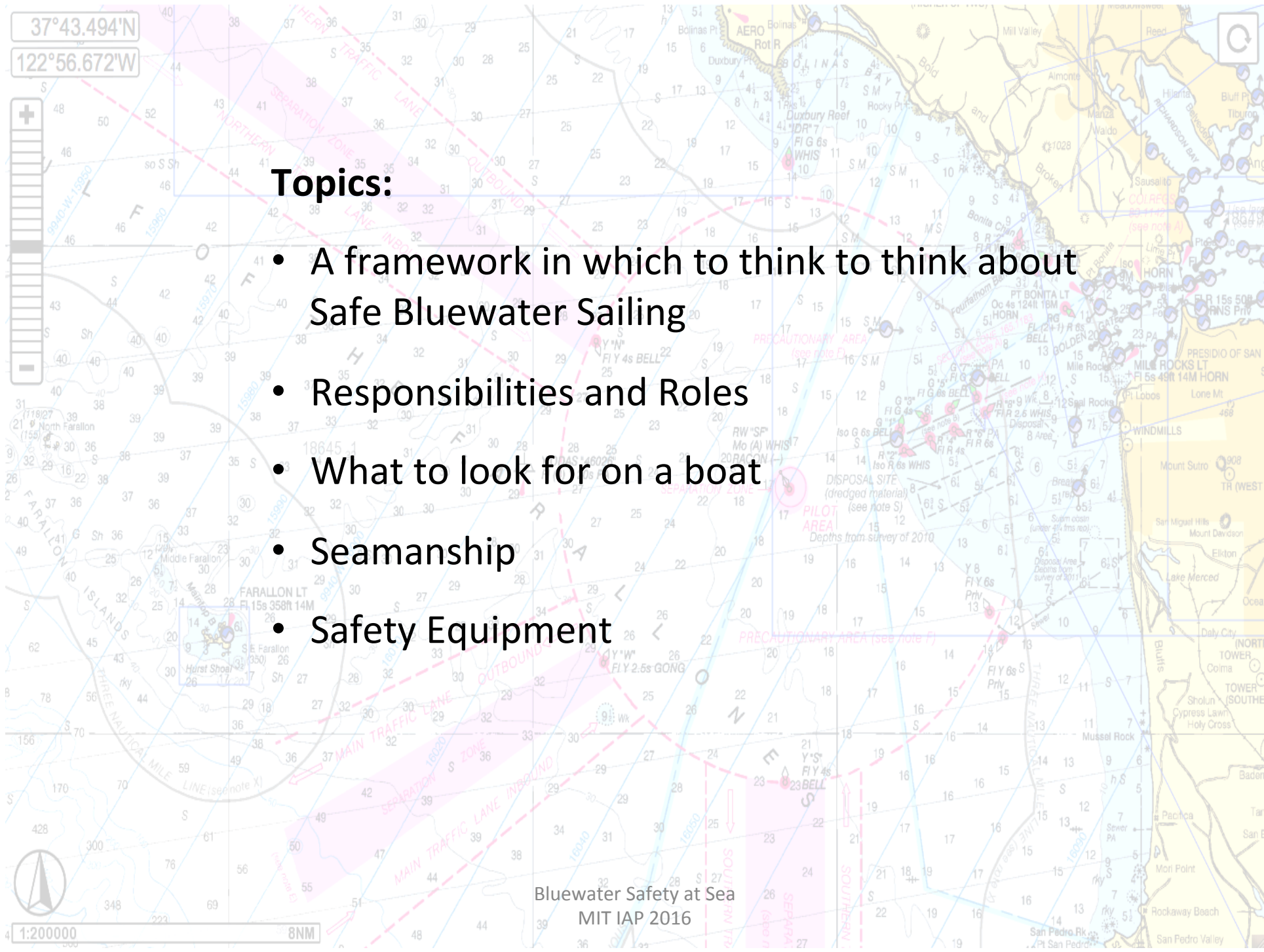
The goal of the next two hours:

- To give you confidence that you can be safe on a big keelboat
- To point out things you need to know to be a contributing member of the crew
- Give you familiarity with safety gear
- To give a sense trip planning (the bigger picture).



Themes:

- The 'Safety Triangle'
- Personal Responsibility
- Preparation/Knowledge
- Communication
- Situational Awareness



Topics:

- A framework in which to think about Safe Bluewater Sailing
- Responsibilities and Roles
- What to look for on a boat
- Seamanship
- Safety Equipment

37°43.494'N
122°56.672'W

The Safety Triangle

The Boat's Seaworthiness

Safety Gear

Seamanship

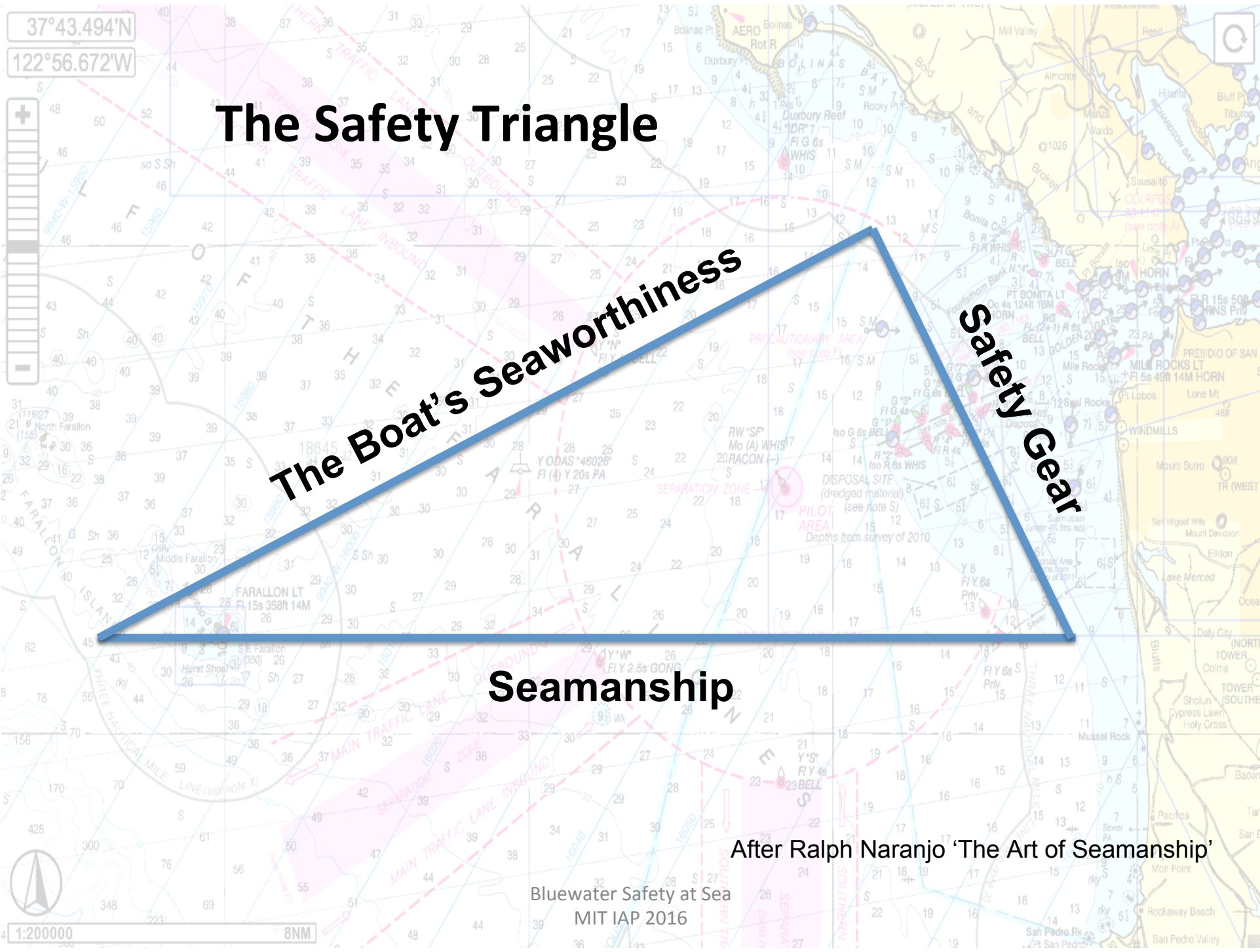
After Ralph Naranjo 'The Art of Seamanship'

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1:200000

8NM

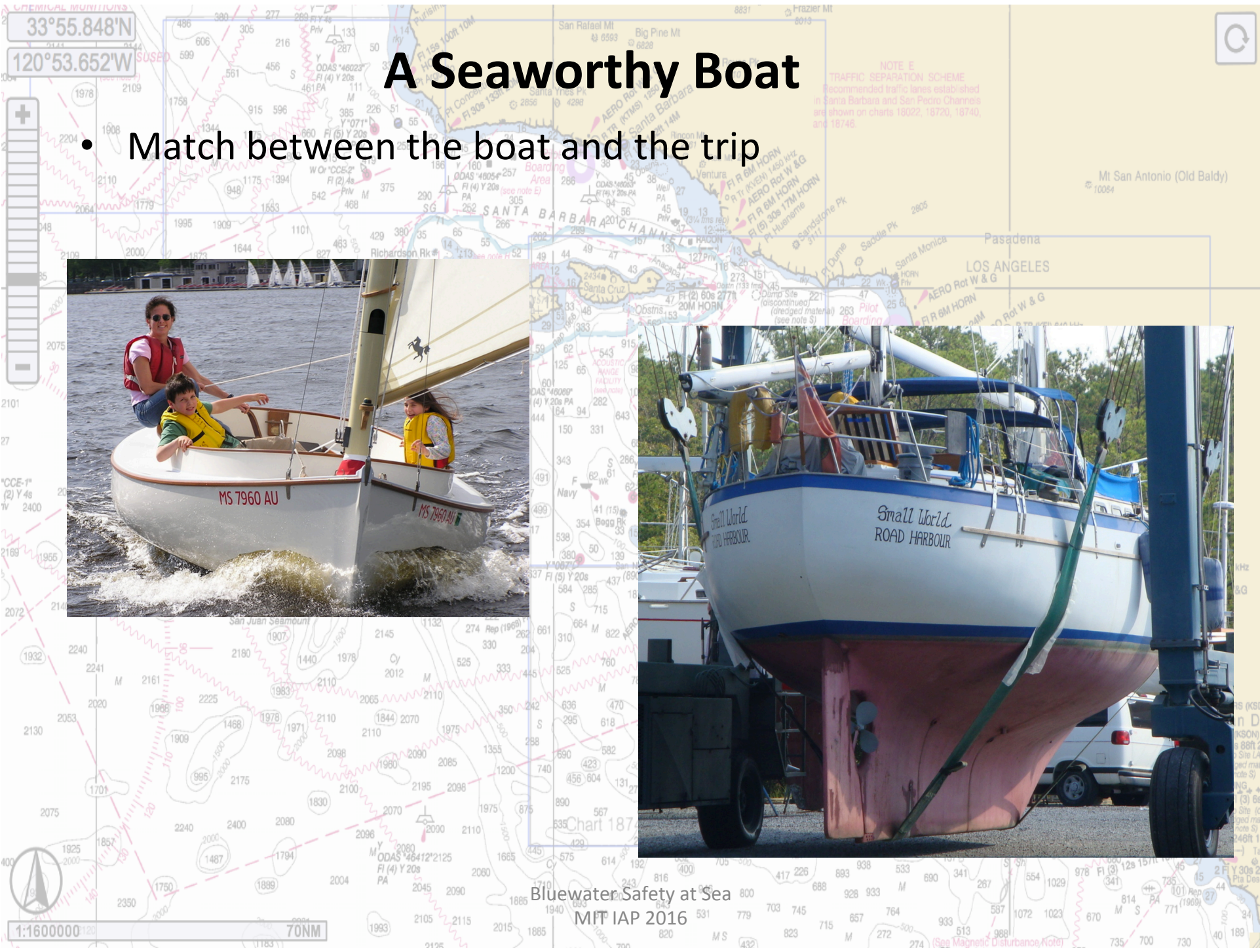


A Seaworthy Boat

- Match between the boat and the trip



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A Seaworthy Boat

Is the boat well-maintained?

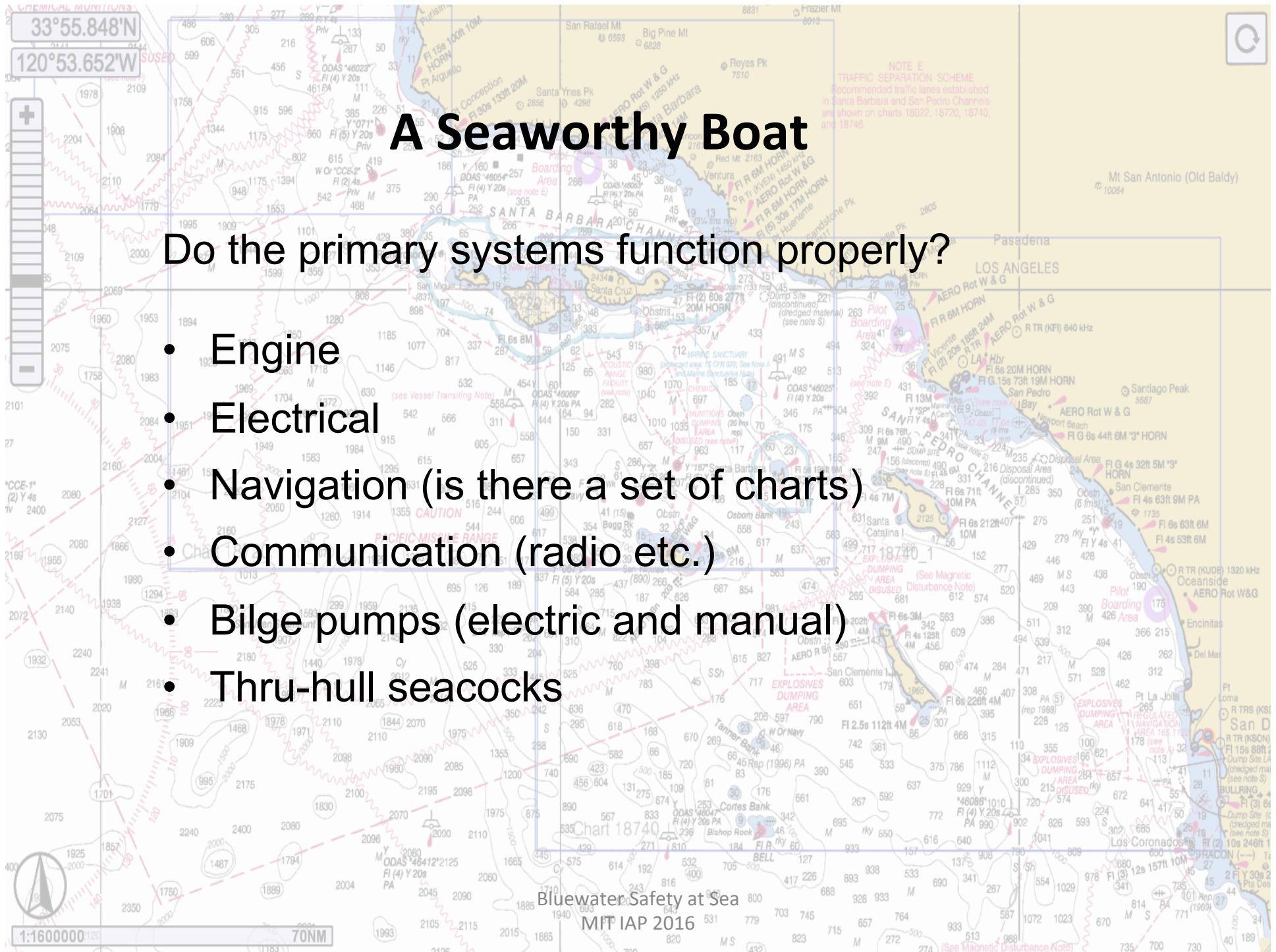
- Does the hull look fair: rounded, no creases/ large dimples
- Standing rigging – any bent pieces or rust? (bad)
- Worn running rigging (not good)
- Chipping varnish/paint (not good)
- Winches need lubrication (not good)
- Is there water in the bilge? (a little water is OK; more than a little is not a good sign but can come from many causes).

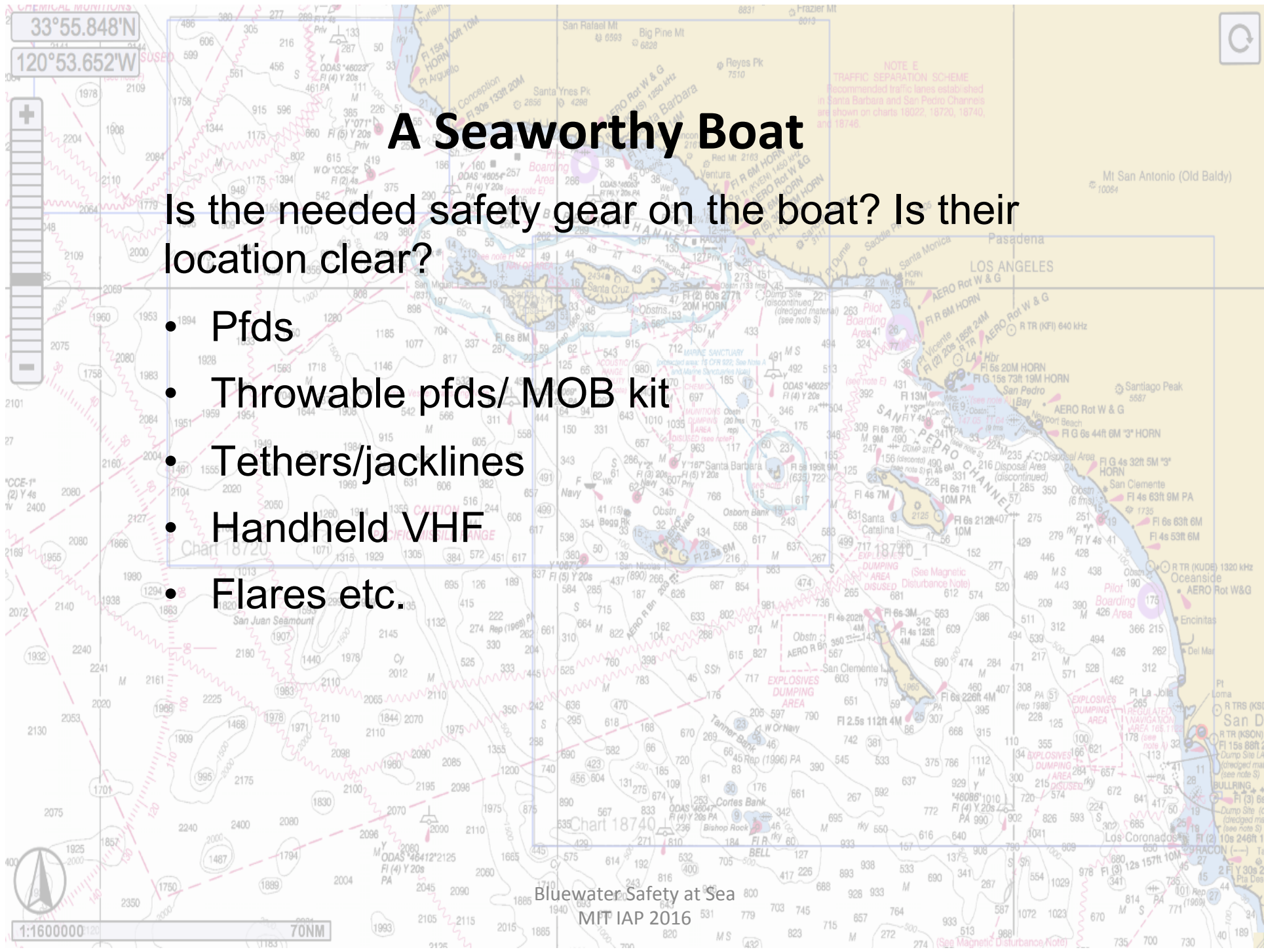
A Seaworthy Boat

Do the primary systems function properly?

- Engine
- Electrical
- Navigation (is there a set of charts)
- Communication (radio etc.)
- Bilge pumps (electric and manual)
- Thru-hull seacocks

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A Seaworthy Boat

Is the needed safety gear on the boat? Is their location clear?

- Pfd's
- Throwable pfd's/ MOB kit
- Tethers/jacklines
- Handheld VHF
- Flares etc.

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NOTE E
TRAFFIC SEPARATION SCHEME
Recommended traffic lanes established in Santa Barbara and San Pedro Channels are shown on charts 18022, 18720, 18740, and 18746.

(See Magnetic Disturbance Note)

37°43.494'N
122°56.672'W

A Seaworthy Boat

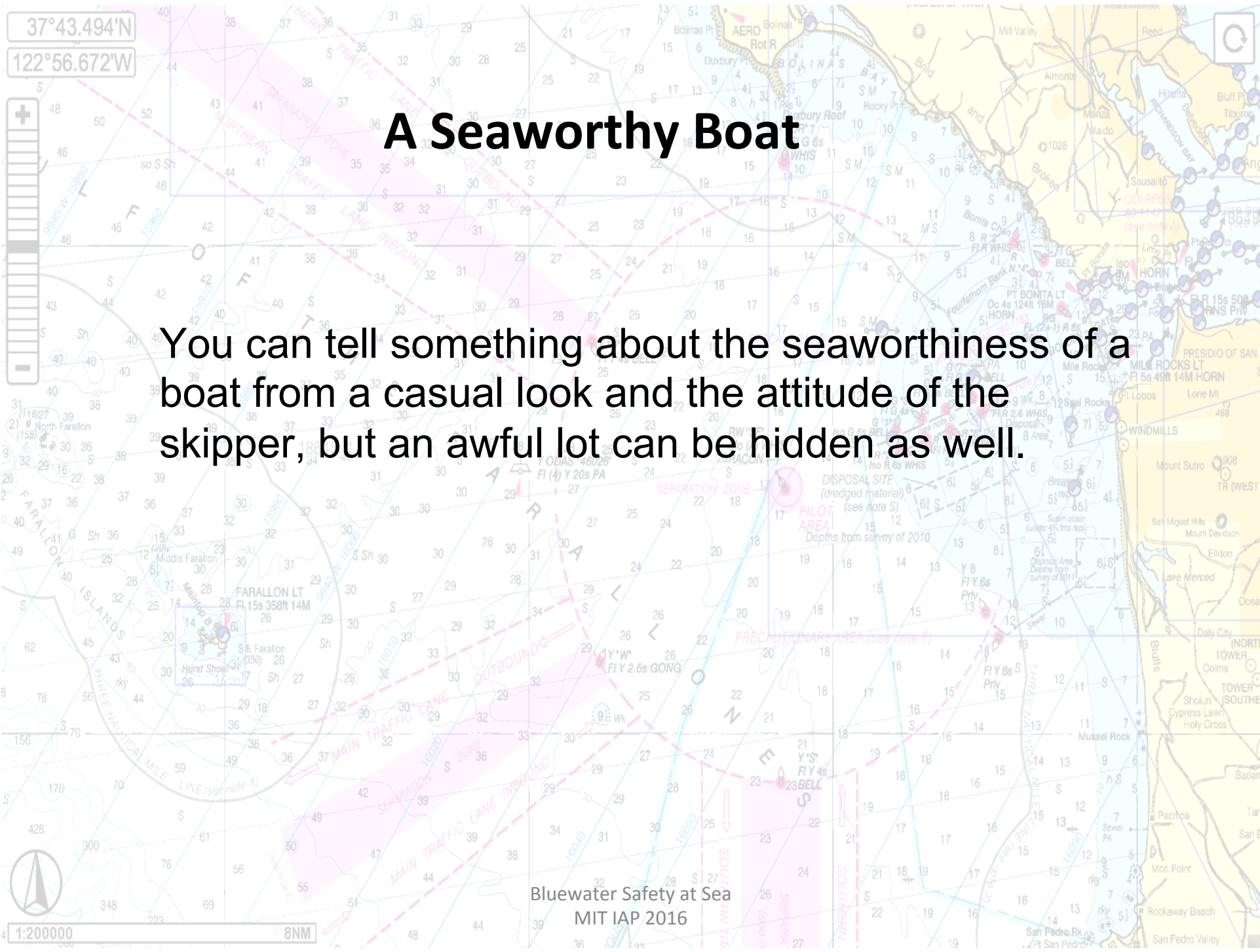
You can tell something about the seaworthiness of a boat from a casual look and the attitude of the skipper, but an awful lot can be hidden as well.

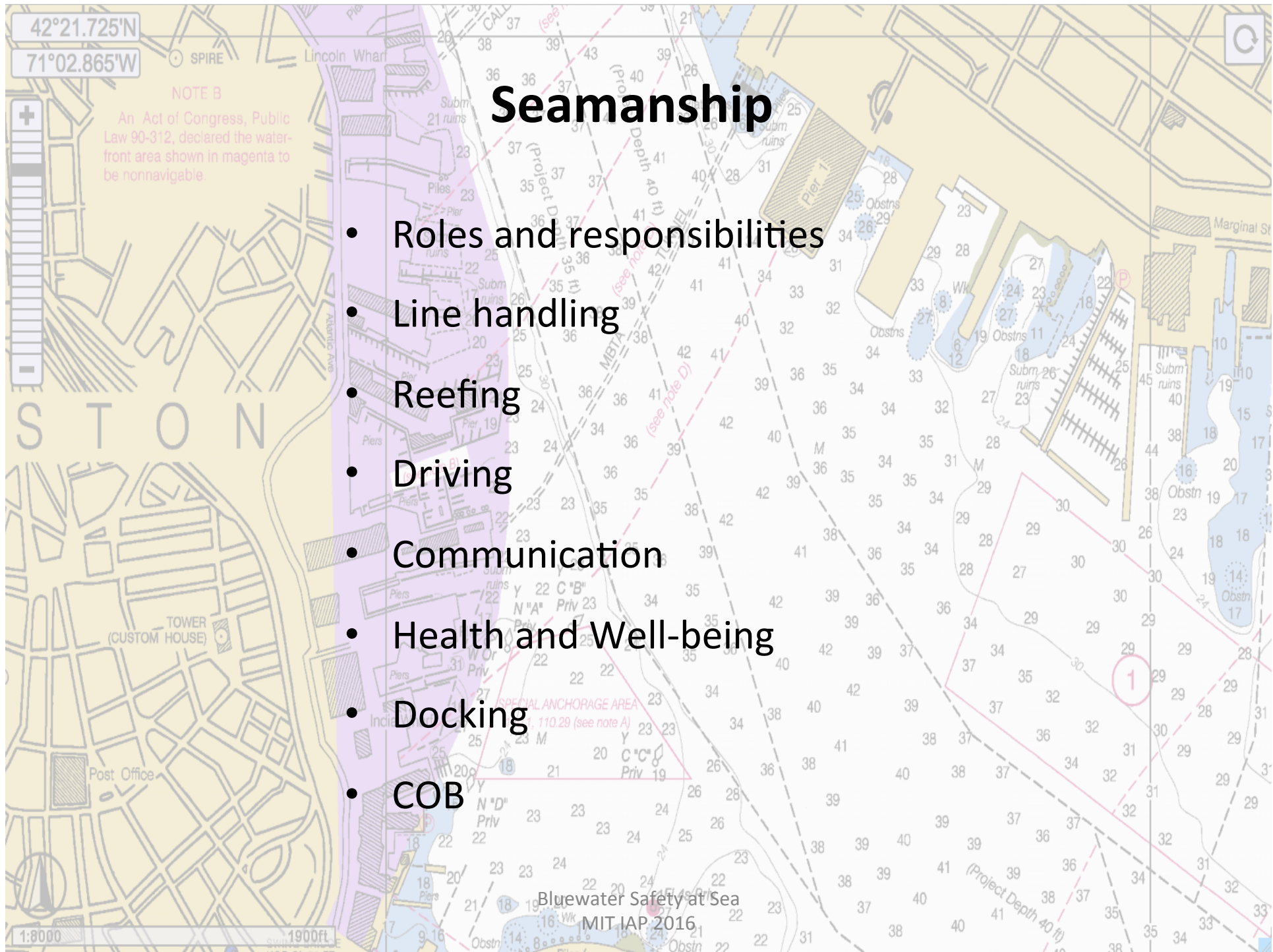
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8NM





Seamanship

- Roles and responsibilities
- Line handling
- Reefing
- Driving
- Communication
- Health and Well-being
- Docking
- COB



Seamanship

Roles and Responsibilities

Everyone on a boat has responsibilities.

Basic responsibilities:

- Staying on the boat
- Speaking up if you need help
- Speaking up if something doesn't seem right
- Being honest about your abilities – and having the courage to say 'No'
- Be proactive



37°43.494'N
122°56.672'W

Responsibilities and Roles

Other responsibilities vary by role:

Crew:

- Know how to perform tasks to run the boat:
rope handling, reefing, driving, trimming
sails, radio, etc.

Skipper:

Responsible for the safety of the boat
and everyone aboard

- Assuring boat is sound and has necessary
safety equipment
- Assuring boat is being run and navigated in a
safe, seamanlike manner
... and much more

37°43.494'N
122°56.672'W

Responsibilities and Roles

You will see other roles:

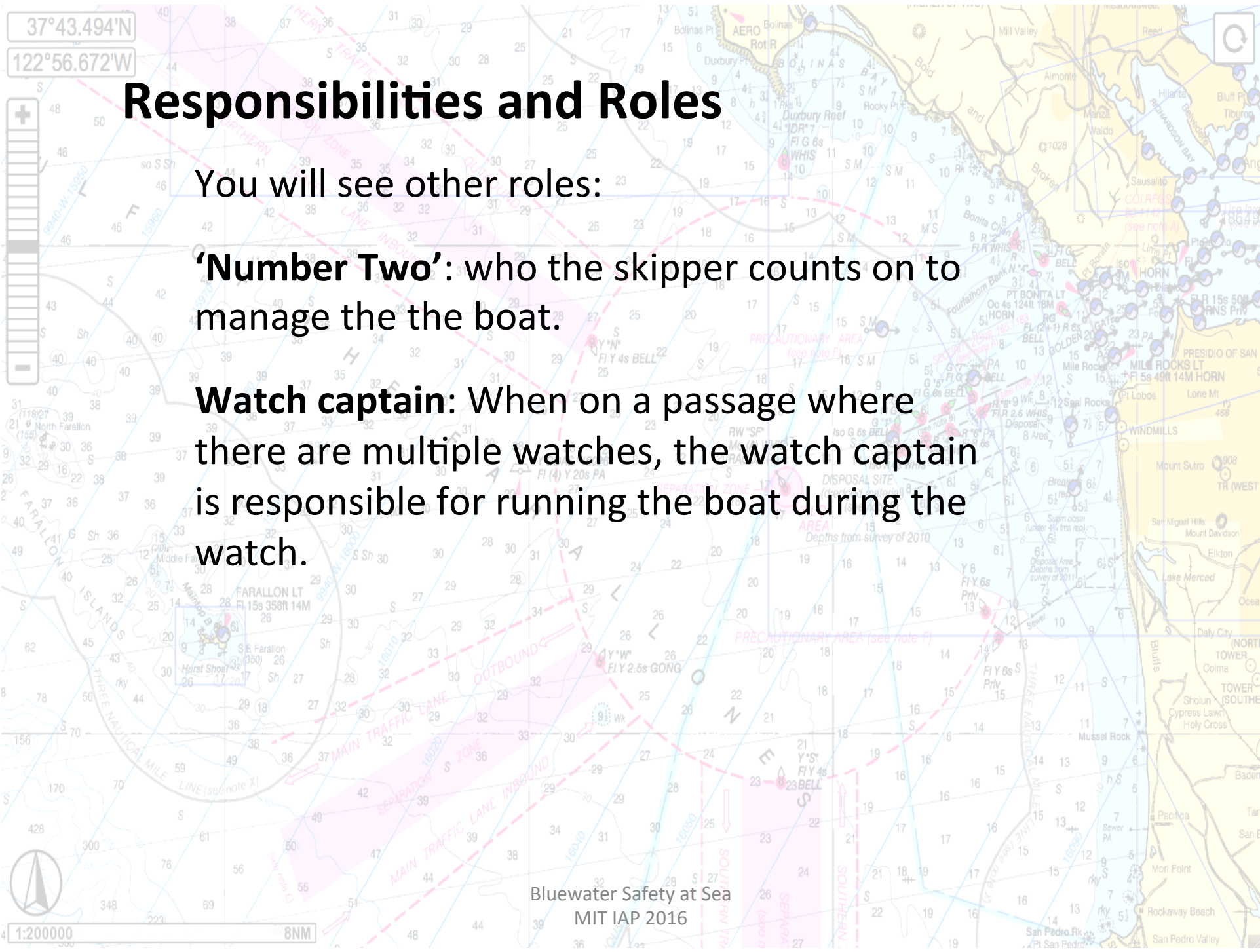
'Number Two': who the skipper counts on to manage the the boat.

Watch captain: When on a passage where there are multiple watches, the watch captain is responsible for running the boat during the watch.



1:200000

8NM



Line Handling

Know which lines are the sheets, halyards, and control lines (e.g. traveler, jib furler). Ask if you don't know.

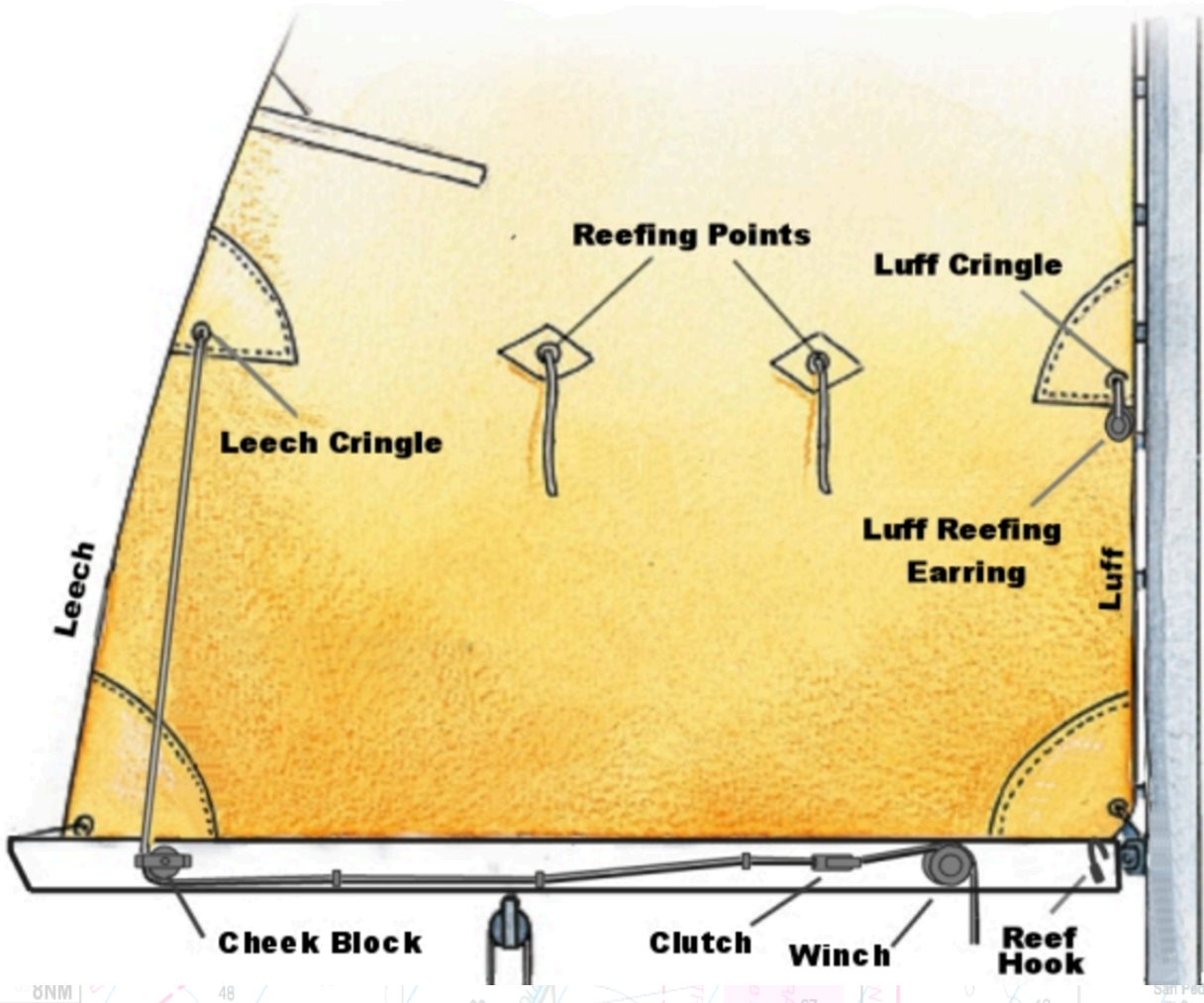
- Winches always go clockwise. Pass winch handles grasped in the middle.

- Knots to know: Cleat hitch, bowline, reef (square) knot, stopper knot, rolling hitch. Place to learn: Grog's knots (animatedknots.com)

37°43.494'N
122°56.672'W

Reefing

- Reefing the main: slab reefing

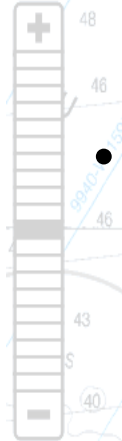


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8NM

SAN PEDRO HARBOR
SAN PEDRO VALLEY

37°43.494'N
122°56.672'W

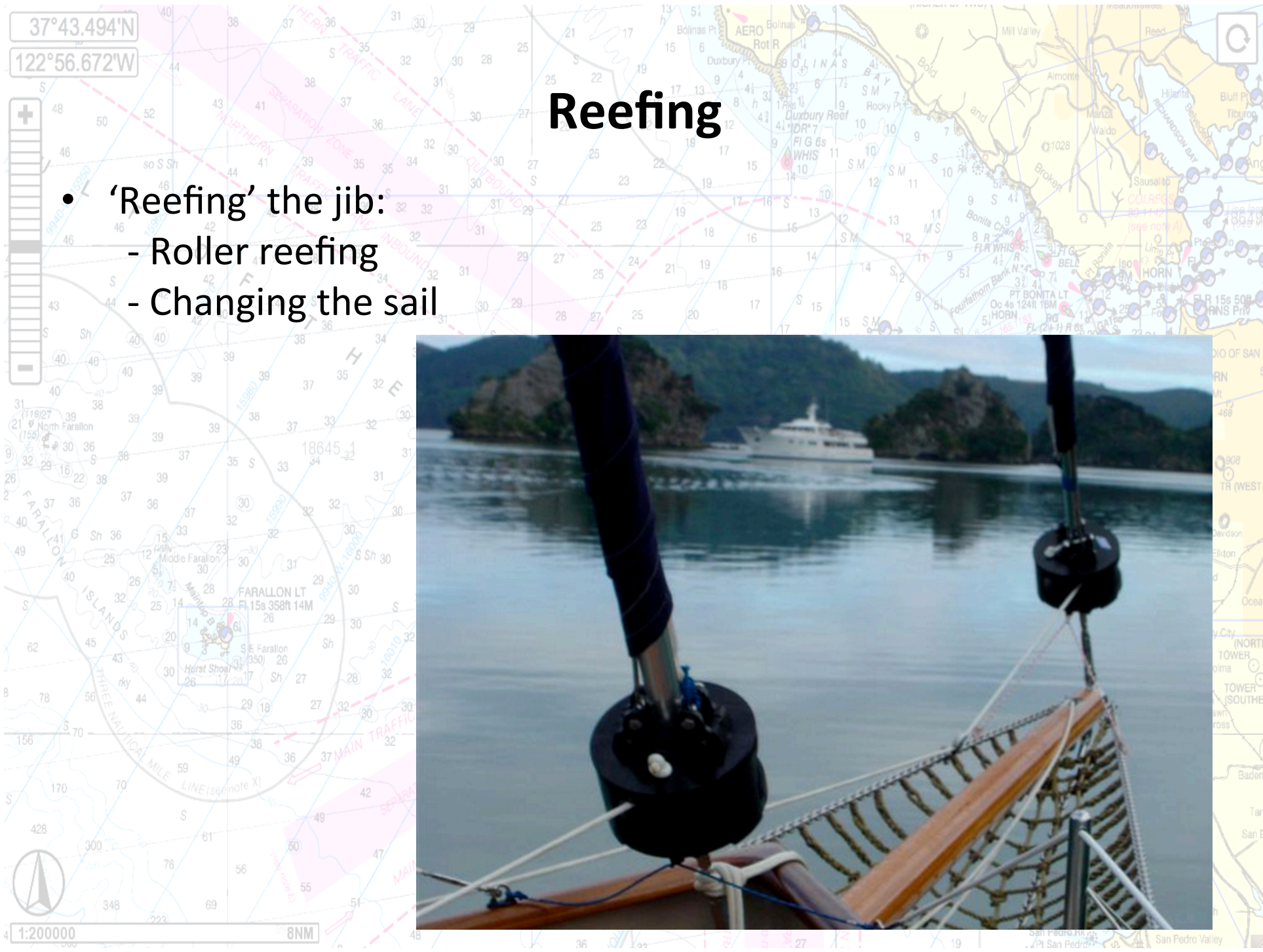


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8NM

Reefing

- 'Reefing' the jib:
 - Roller reefing
 - Changing the sail



Driving

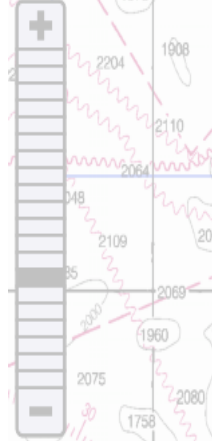
- Know how the boat handles. Wheels handle like a car with very slow reflexes. Tillers don't.
- Steering a course – either by the compass or towards an object
- Steering a point of sail – usually close-hauled, when you steer by the jib tell-tails
- Letting other boats know your intentions
- On longer trips, updating the log and DR plot

Driving



33°55.848'N

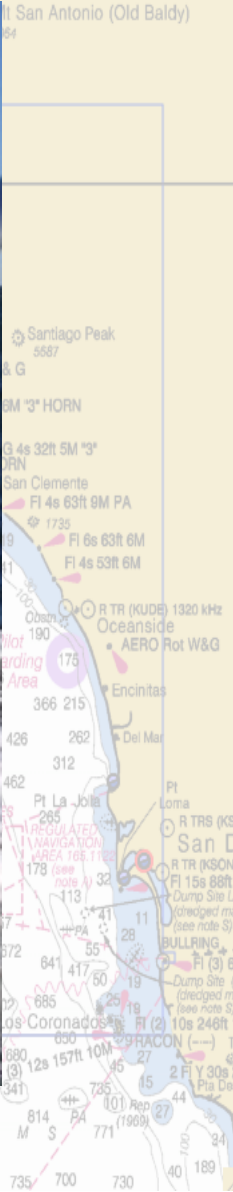
120°53.652'W



°CCE-1"
(2) Y 4s
W 2400



NOTE E
TRAFFIC SEPARATION SCHEME
Recommended traffic lanes established
in Santa Barbara and San Pedro Channels
are shown on charts 18022, 18720, 18740,
and 18746.



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(See Magnetic Disturbance Note)

Communication

- Outside the boat:
 - Float plan
 - Early communication with other vessels
- Inside the boat:
 - Clear instructions to crew
 - Prepare crew for actions in advance
 - Complete sentences, calm voice.
- In general, be proactive:
 - What do I know?
 - Who needs to know?
 - Do they know?

Communication

- Normal lights and sound signals
- Distress signals
- Radio
 - Calling procedure
 - Channels to know (16, 9, 13, 27 locally)
 - Practice – what to say, where to find data
 - Mayday / Pan Pan / Securite

A detailed nautical chart of Boston Harbor, Massachusetts, showing various channels, shoals, and navigational markers. The chart includes depth soundings, buoy locations, and vessel traffic information. A green dashed rectangle highlights a central area of the harbor. The word "Communication" is overlaid in large black text across the top center of the chart.

Communication

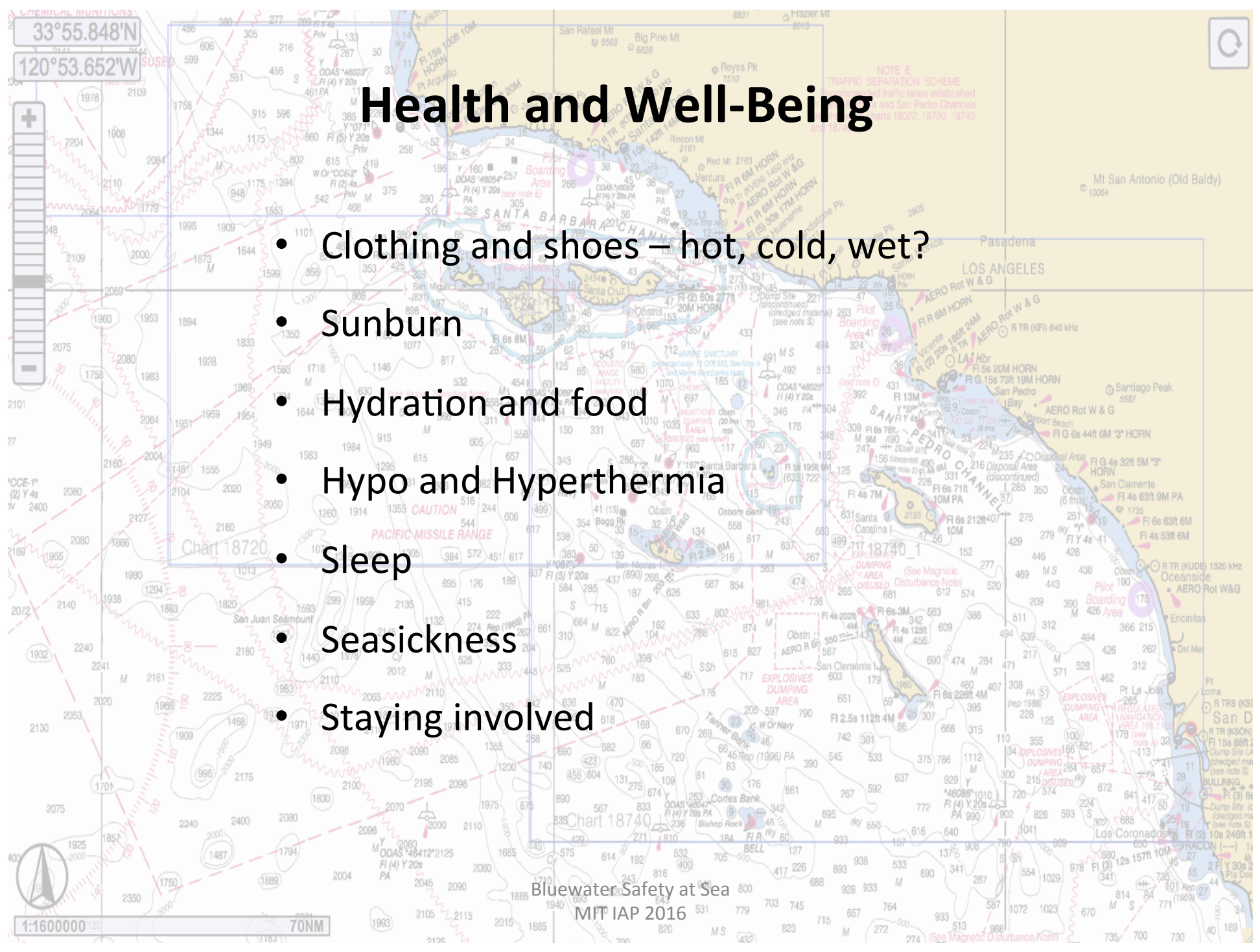
Pan Pan, Mayday, or Securite?

- You see a large floating log in the main ship channel that could be a hazard to small boats.
- You are offshore, and a passenger starts complaining of chest pains.
- In Boston Harbor, a thru-hull fails and the boat starts filling with water, near the capacity of the primary bilge pump.
- On a spinnaker reach, your unsecured whisker pole whips forward and whacks a crewmember in the head, who drops to the deck senseless.

Health and Well-Being

- Clothing and shoes – hot, cold, wet?
- Sunburn
- Hydration and food
- Hypo and Hyperthermia
- Sleep
- Seasickness
- Staying involved

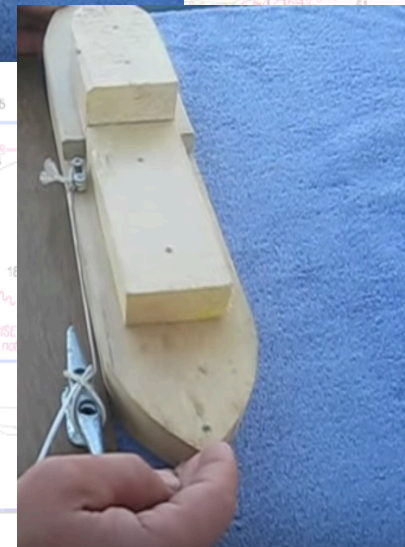
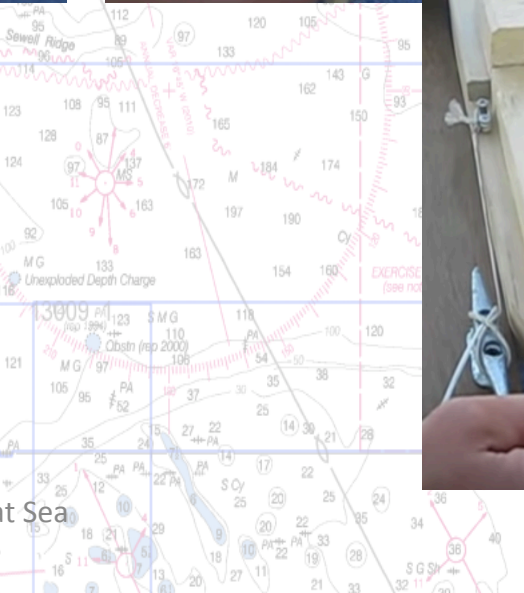
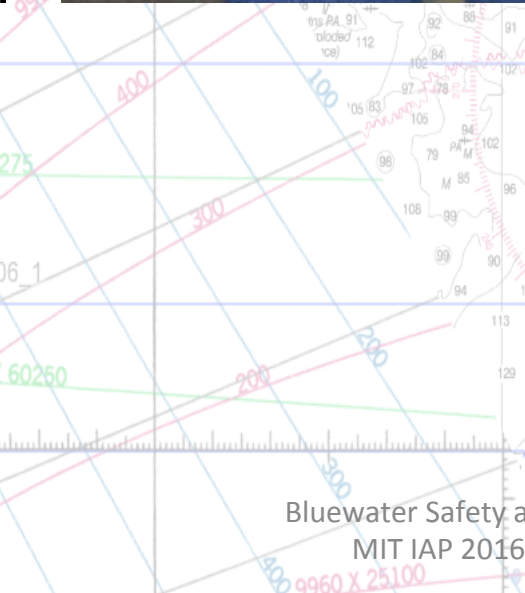
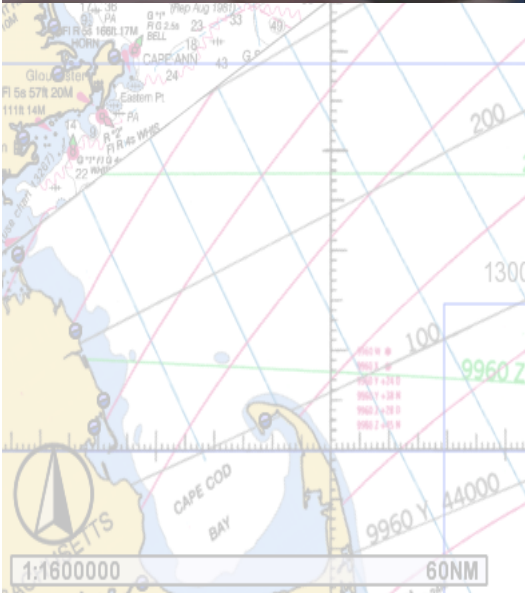
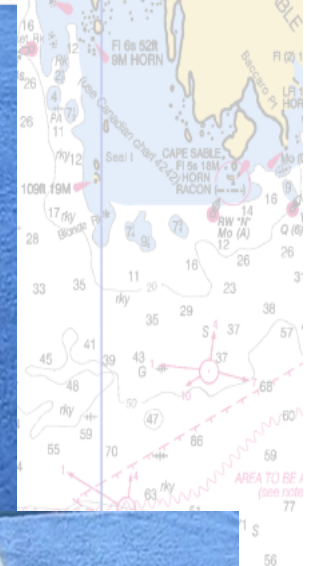
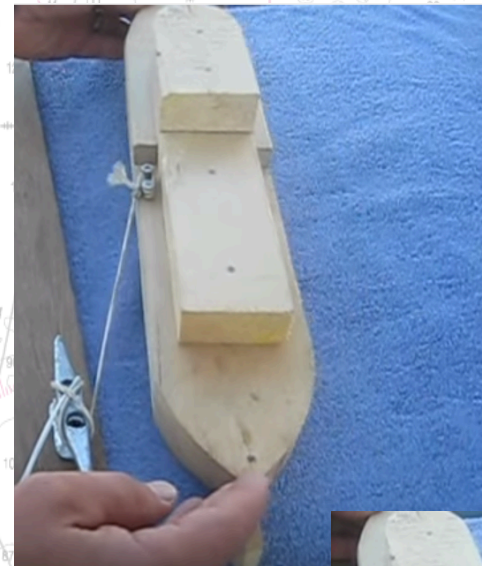
Bluewater Safety at Sea
MIF IAP 2016



44°01.306'N
65°45.364'W

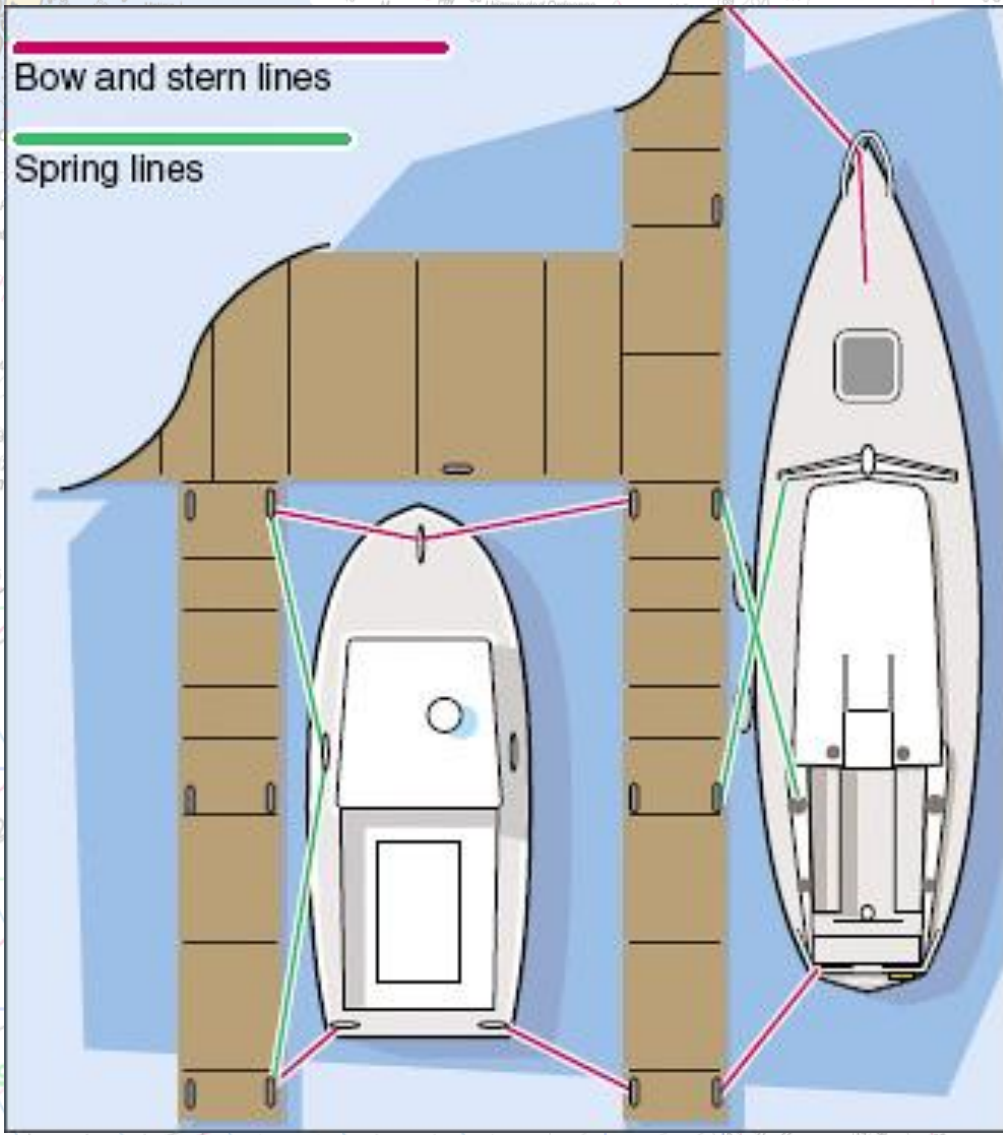
Docking

Most common – springline docking



Bluewater Safety at Sea
MIT IAP 2016

44°01.306'N
65°45.364'W



Bluewater Safety at Sea
MIT IAP 2016

Crew Overboard Strategy

1. A clear chain of command

2. Mark the spot

3. Most important task: seeing the COB

4. Attaching the COB to the boat

Key tips:

- Furl the jib to control speed/reduce complexity
- No style points for rescue under sail; start the engine
- **Only through periodic drills can you be prepared for the real event**



A nautical chart of the Santa Barbara Channel area, showing depth contours, navigational aids, and various maritime hazards. The chart includes a coordinate box in the top left (33°55.848'N, 120°53.652'W), a scale bar at the bottom left (1:1600000), and a compass rose. The text is overlaid on the chart, providing a list of COB tactics and a safety reminder.

Crew Overboard

COB tactics (and you do need to practice!)

1. Yell
2. Point (everyone; dedicate a pointer)
3. Flotation in the water
4. Quick stop (turn into the wind) –slow down, stay close to COB
5. Simplify (e.g. furl jib, center traveler and main, turn on engine) and plan

If you are in the water check flotation device, swim to MOB kit, conserve energy, turn on light, have whistle in hand.

Enhancing Seamanship Skills

Want to build experience, knowledge and judgment. How?

- Go sailing.
- Read
- Find a mentor/role model (racing helps with this).
- Expose yourself to a wide range of skippers and crews
- Sign up for courses (locally Black Rock (ASA), J/World (USSA) nationally, others internationally)

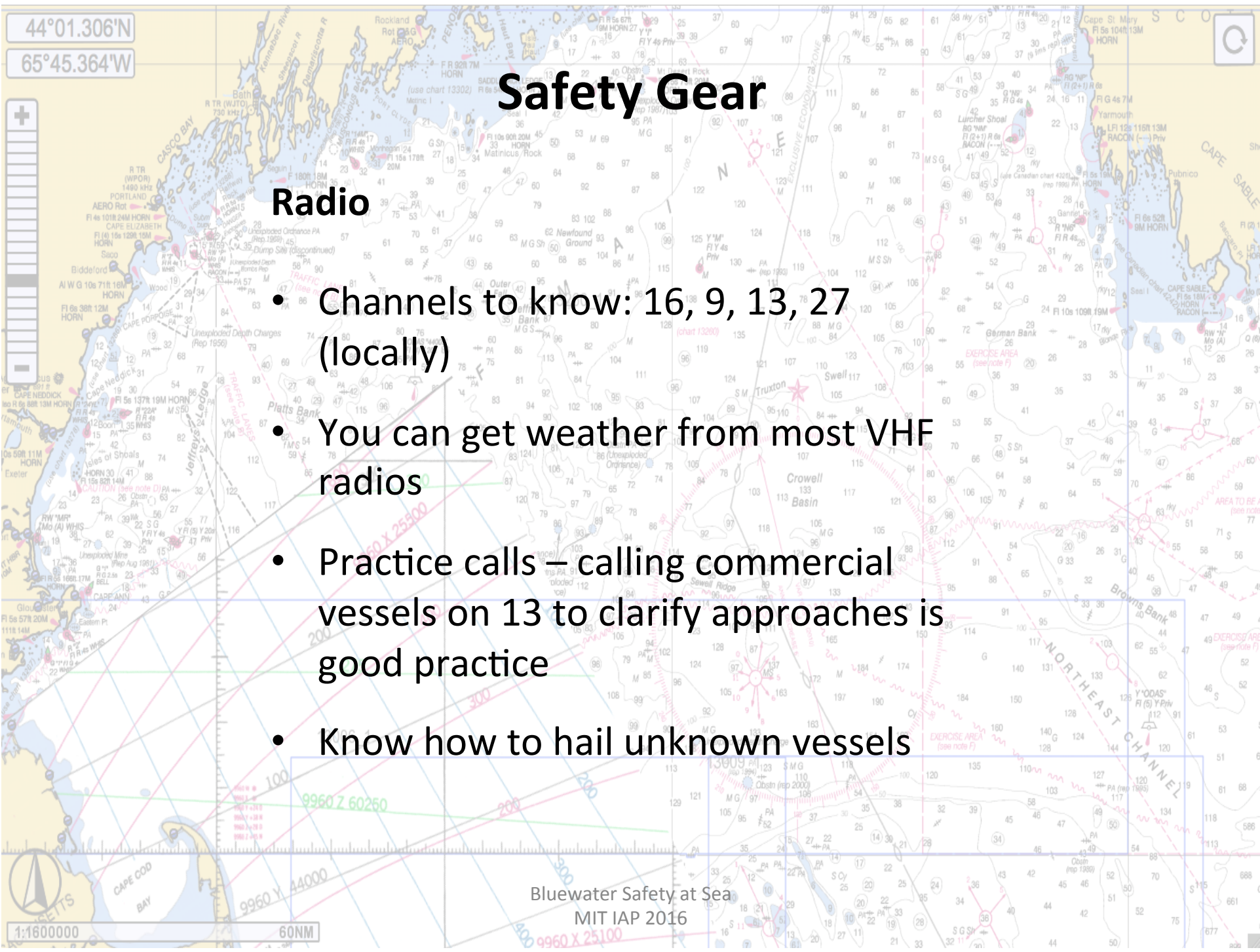


Questions?

Safety Gear

Radio

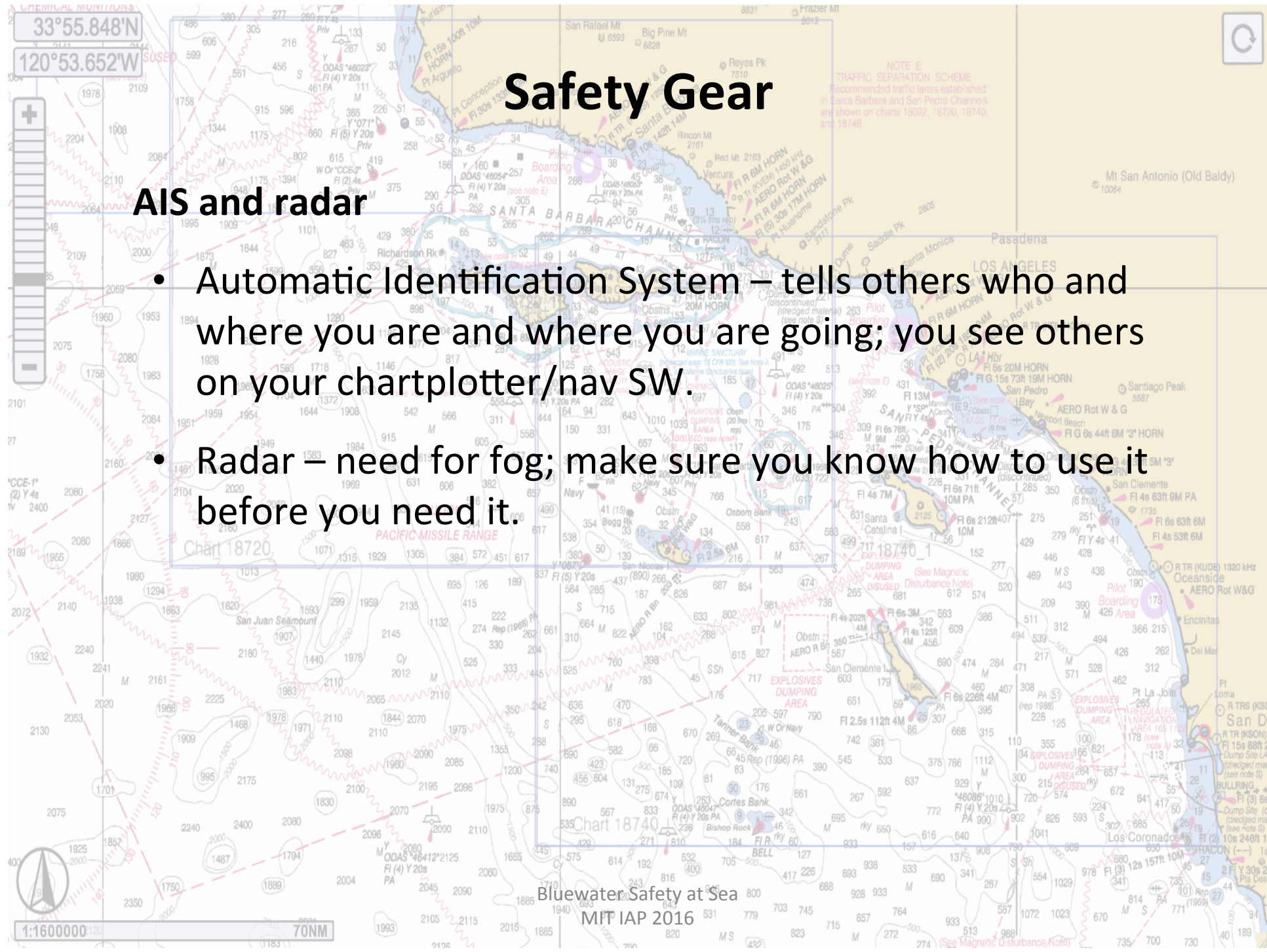
- Channels to know: 16, 9, 13, 27 (locally)
- You can get weather from most VHF radios
- Practice calls – calling commercial vessels on 13 to clarify approaches is good practice
- Know how to hail unknown vessels



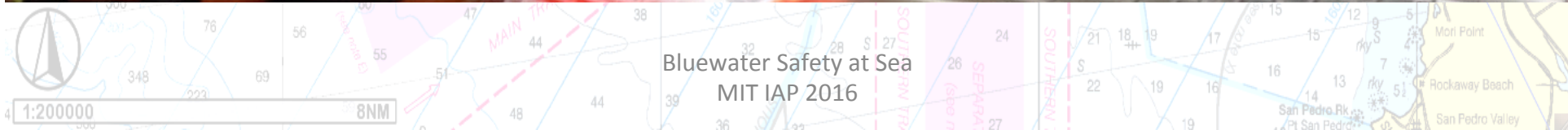
Safety Gear

AIS and radar

- Automatic Identification System – tells others who and where you are and where you are going; you see others on your chartplotter/nav SW.
- Radar – need for fog; make sure you know how to use it before you need it.

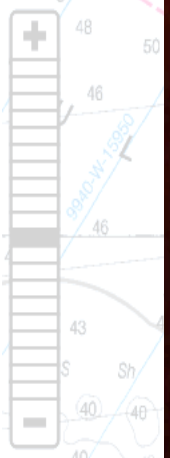


Bluewater Safety at Sea
MFT IAP 2016

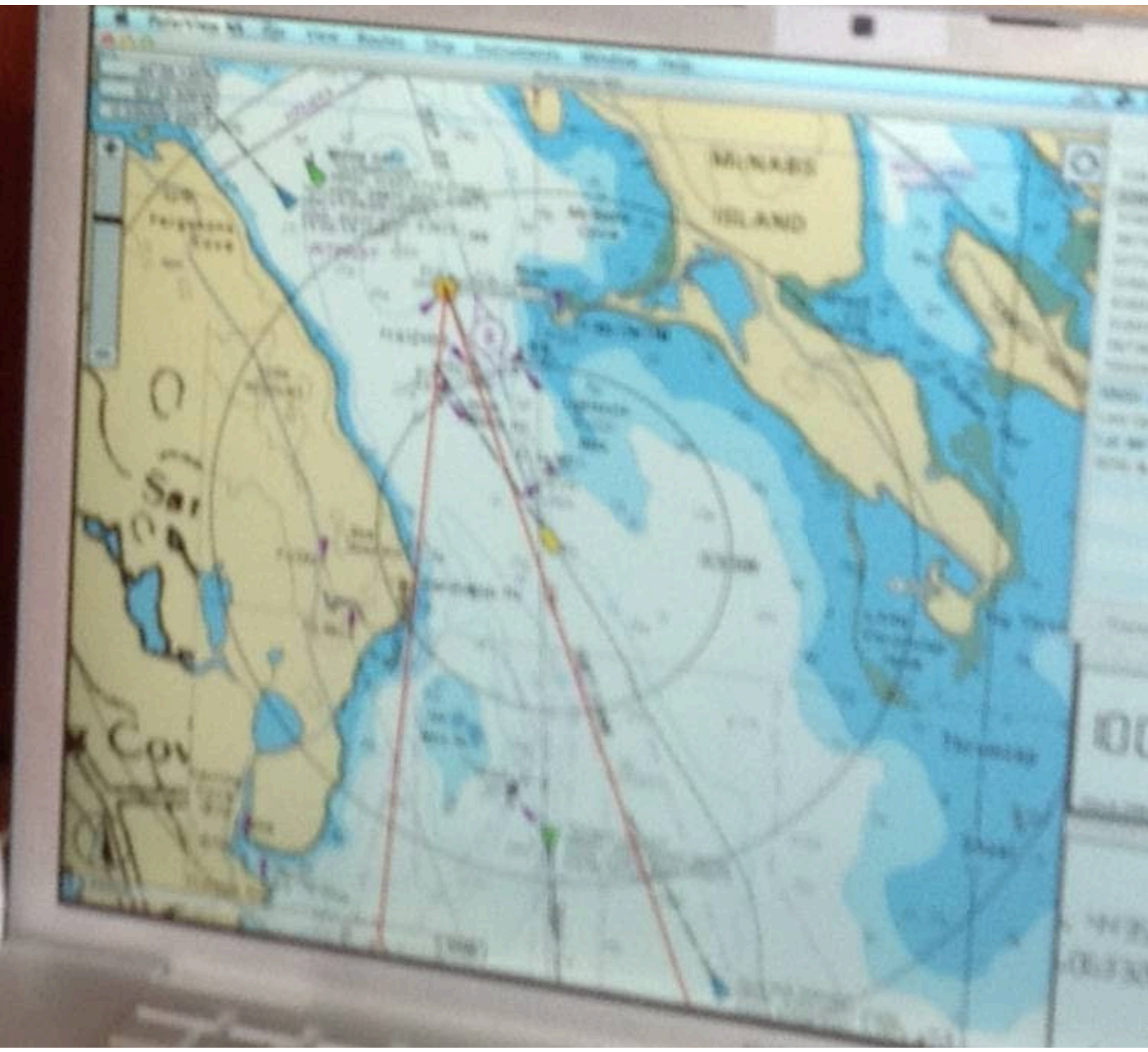


37°43.49'

122°56.672'

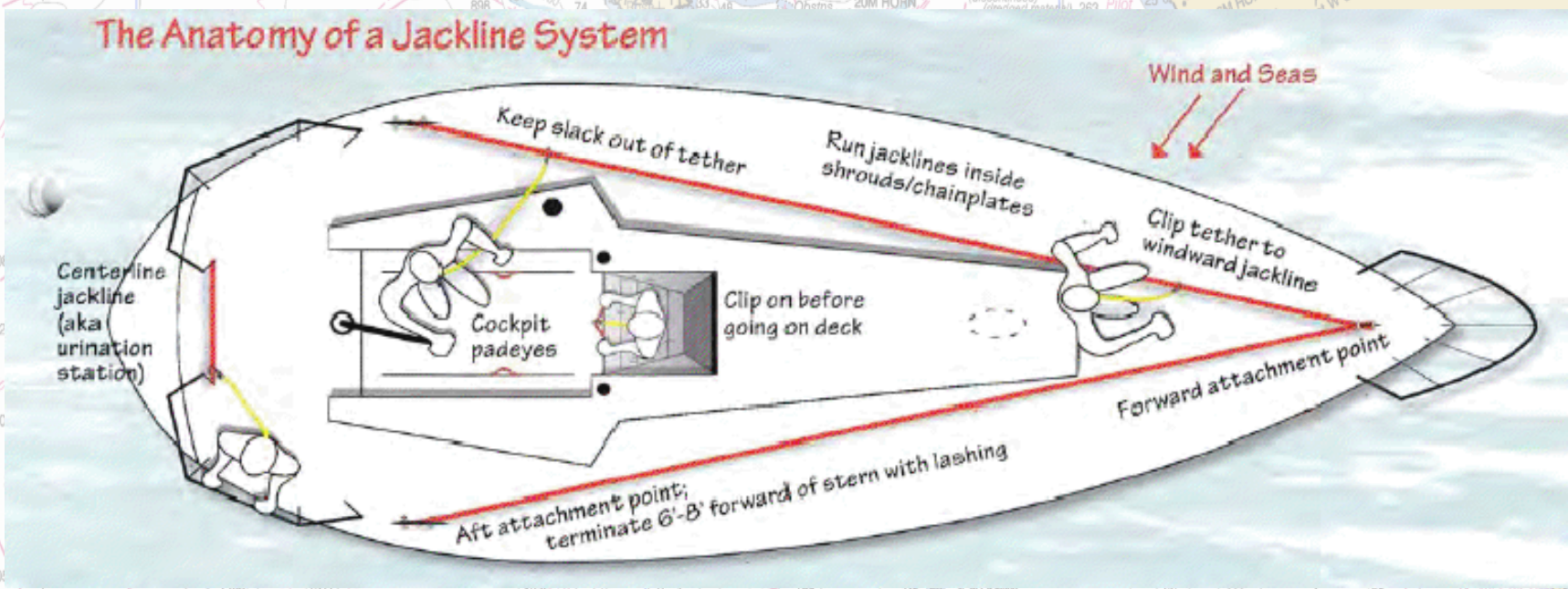


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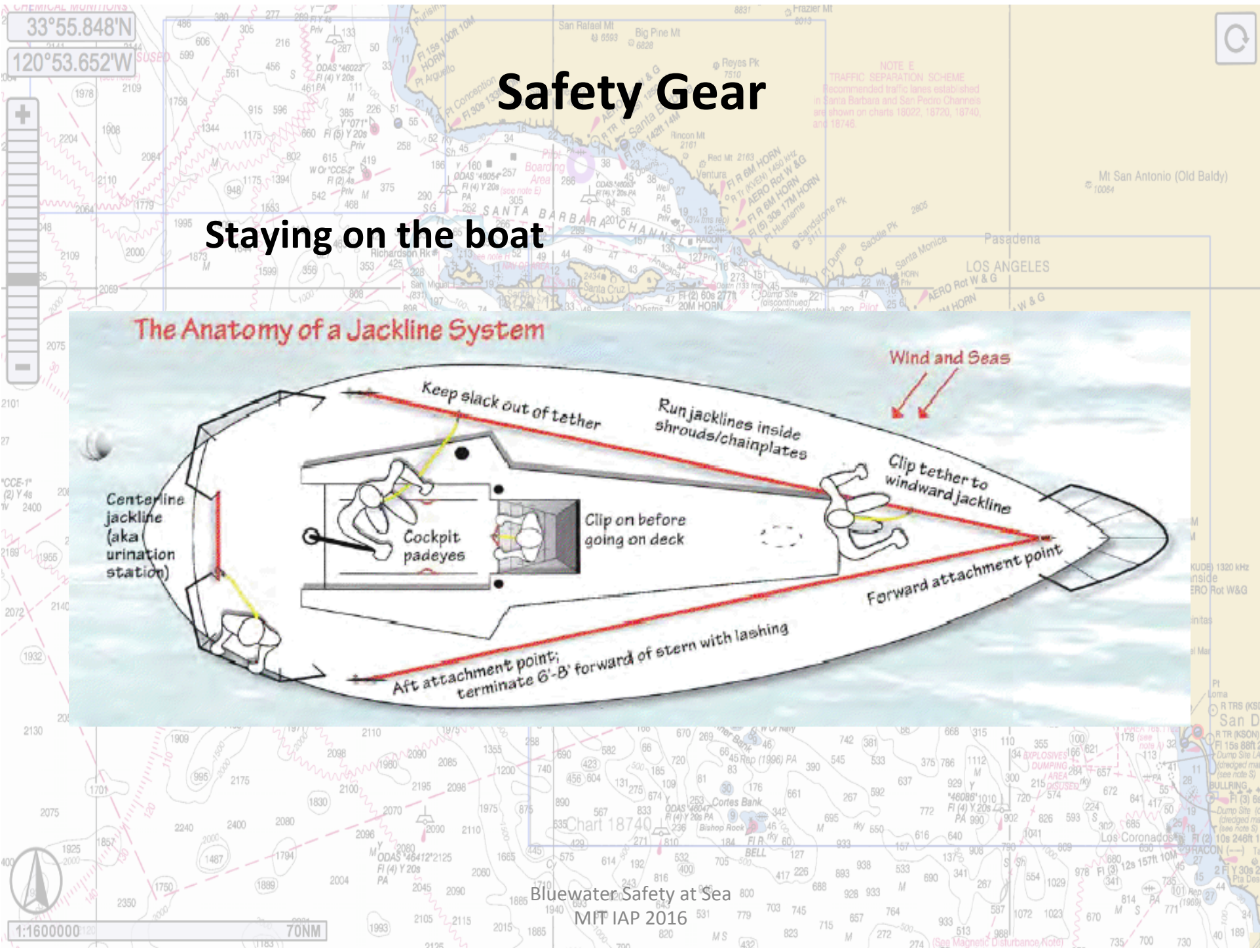


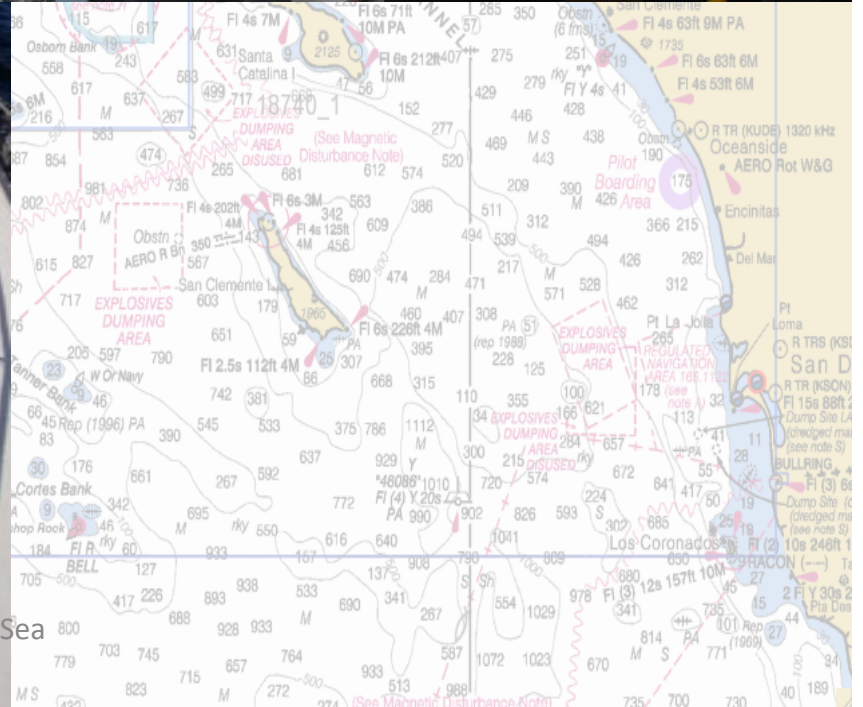
Safety Gear

Staying on the boat



Bluewater Safety at Sea
MIT IAP 2016





Bluewater Safety at Sea
MIT IAP 2015

Safety Gear



Bluewater Safety at Sea
MIT IAP 2016



44°01.306'N
65°45.364'W

Boat and Crew Safety

Planning

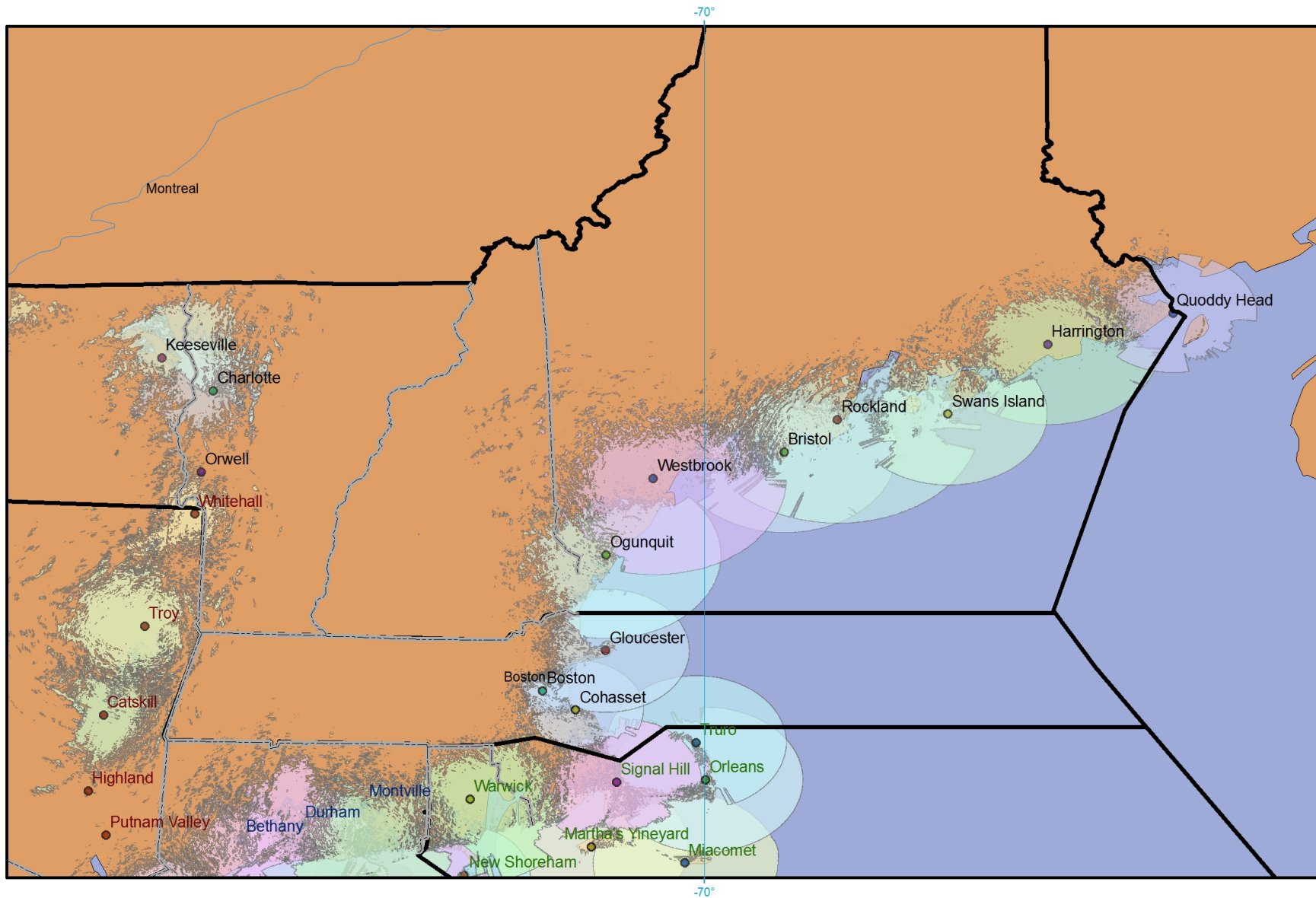
- What's the trip and route?
- Crew
- What needs to be onboard
- Weather
- Boat status

44°01.306'N
65°45.364'W

Boat and Crew Safety

Planning Example: Trip to Woods Hole

- Tides and currents important
- Crew and watch schedules
- Need to bring dinghy
- Weather
- Boat status



Nautical Miles 0 10 20 40
 |-----|-----|-----|-----|

**Coverage based on Longley Rice Irregular Terrain Model
 on receiving a one (1) second transmission from a
 one (1) watt transmitter with an antenna two (2) meters
 above water level**

Questions?



42°36.832'N
68°17.096'W

Practical Sailing

Sailing the boat

- Keeping the boat upright
 - Flattening sails
 - Vang/sheet/traveller
 - Reefing/changing sails
- Accidental Gybing/Preventers
- Polars

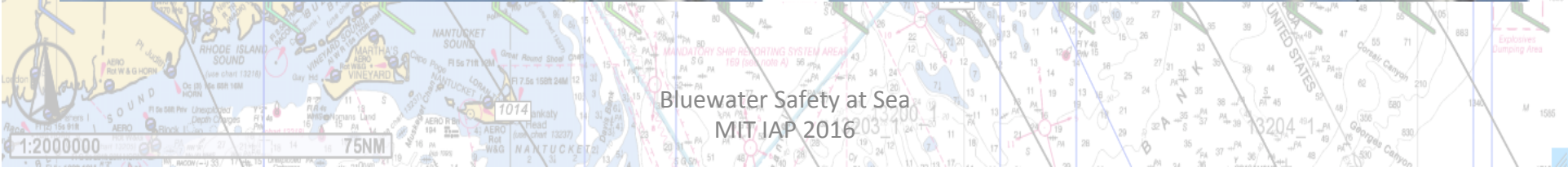
42°36.832'N
68°17.096'W

Practical Sailing Accidental Gybing/Preventers

Windex pointing to box (good!)



Windex pointing between boxes (bad!)



42°36.832'N
68°17.096'W

Practical Sailing

Accidental Gybing/Preventers



1:2000000

42°36.832'N
68°17.096'W



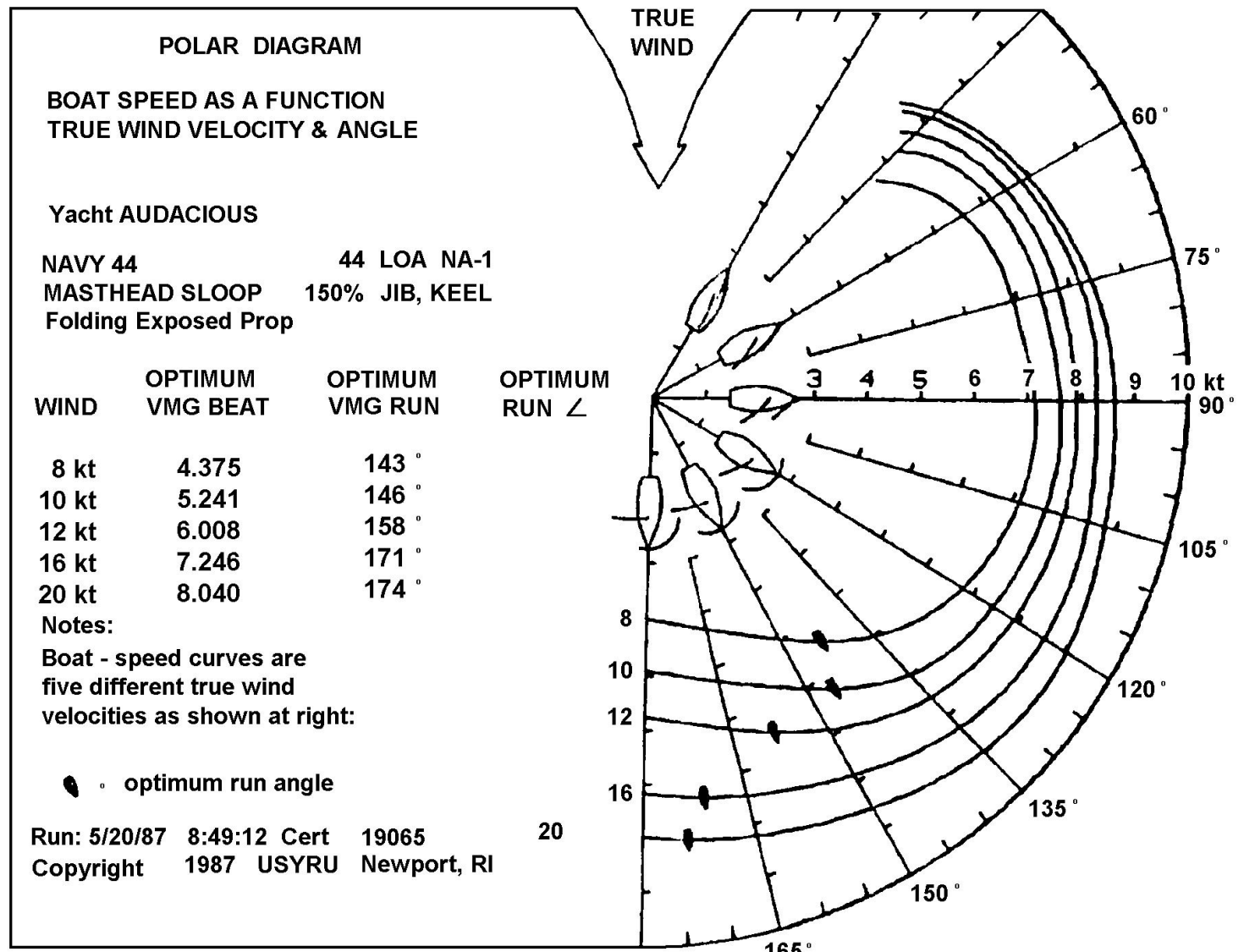
Practical Sailing

Sailing the boat

- Keeping the boat upright
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 - Vang/sheet/traveller
 - Reefing/changing sails
- Accidental Gybing/Preventers
- Polars

42°36.832'N
68°17.096'W

A Polar Example



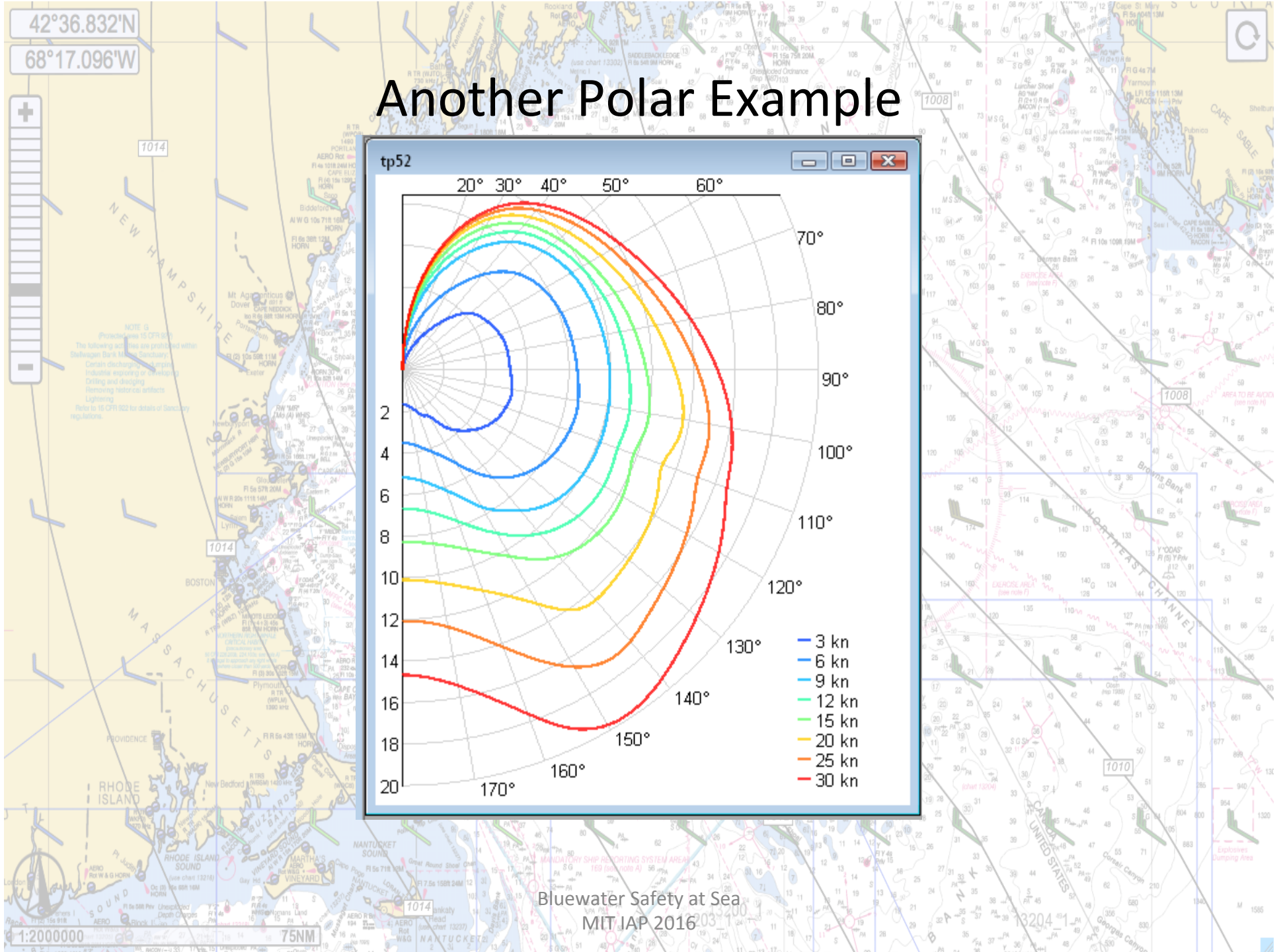
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1:2000000

75NM

Another Polar Example



Bluewater Safety at Sea
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44°10.975'N
68°58.582'W

purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

Practical Sailing

Handling Lines

- Knots
- Fastening to a cleat
- Bowline
- Tautline hitch
- Coiling lines
- Heaving a line
- On winches



1:800000 30NM

42°19.714'N
70°58.800'W

Practical Sailing

Heavy Weather Sailing

- Reducing Sail - Reef early, go faster.
Chicken Jibes.
- Heaving to
- Lying a-hull
- Running off
- Warps, sea anchors

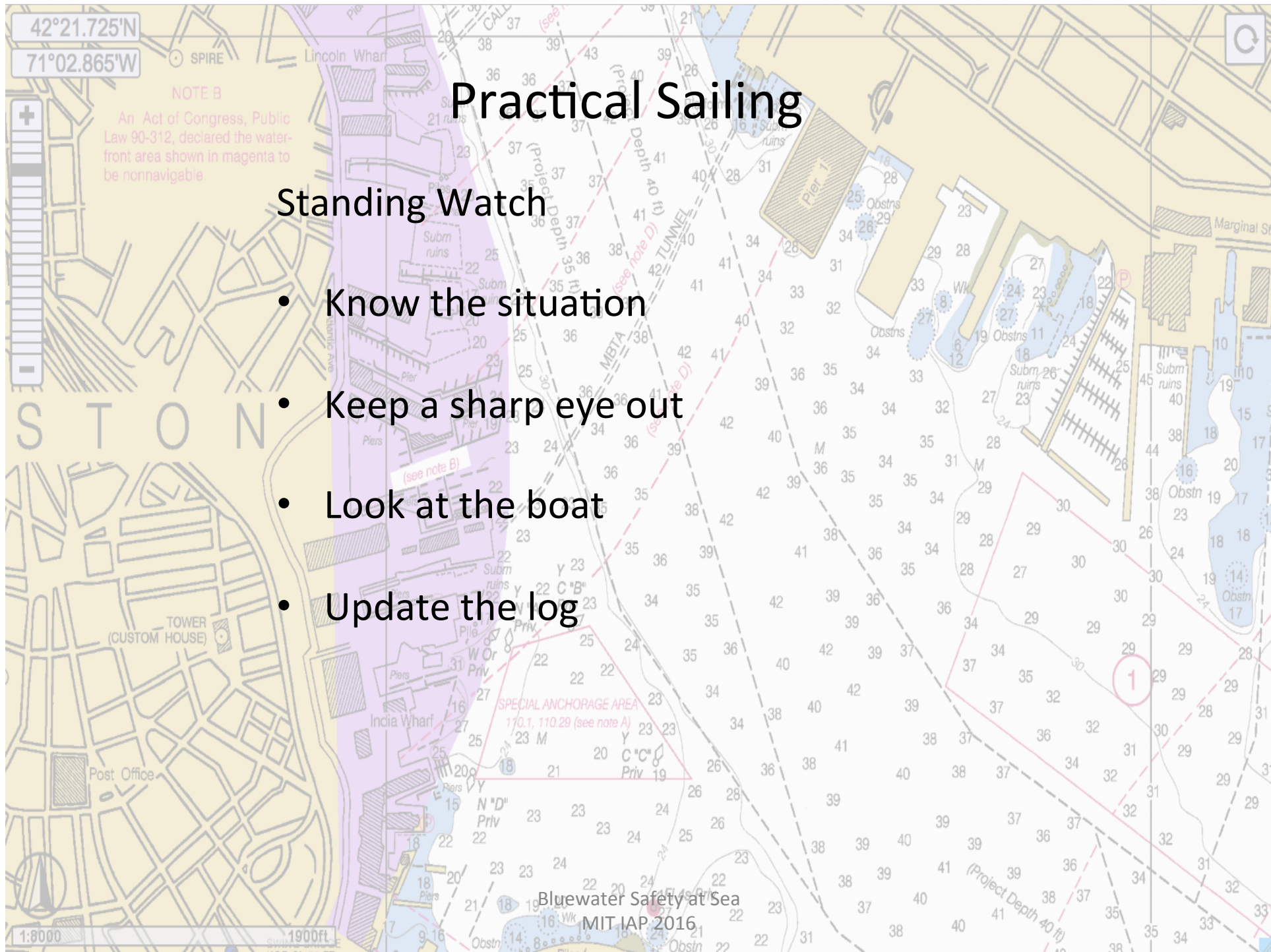


42°19.714'N
70°58.800'W

Practical Sailing

Driving the Boat

- Roles – what are you doing?
- Steering a course v. close-hauled
- Sailing a compass course
- Dead Reckoning and updating the position



Practical Sailing

Standing Watch

- Know the situation
- Keep a sharp eye out
- Look at the boat
- Update the log

Questions?

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