

# STEERING SAFETY DISCUSSION

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Weather, Water and other Significant Factors to consider when steering a dragon boat

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# AGENDA

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- WEATHER CONDITIONS
- WATER CONDITIONS
- BOAT ALIGNMENT
- TSUNAMI

# WEATHER CONDITIONS

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- WEATHER FRONTS

- Strong cold fronts from the Gulf of Alaska/North Pacific have the largest impacts on the water conditions for the San Francisco Bay Area
- However, be aware of Pacific hurricanes coming north from Baja Mexico; the COLD California current destroys the hurricane's warm core, but the remnants can bring dry lightning storms into the area

- WEATHER SOURCES

- The Weather Channel – comprehensive, though less focused on Pacific coast
- Weather West – UCLA Professor Daniel Swain provides insightful analysis on the Pacific

# WATER CONDITIONS

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- TWO TYPES OF WAVES

1. WIND – Found throughout the marina

- Not necessarily an issue unless greater than 25 mph
- Witnessing whitecaps

2. SWELL – Found at the two breakwaters

3. <https://www.youtube.com/shorts/s0RyI3O2PNQ>

- WIND SPEED

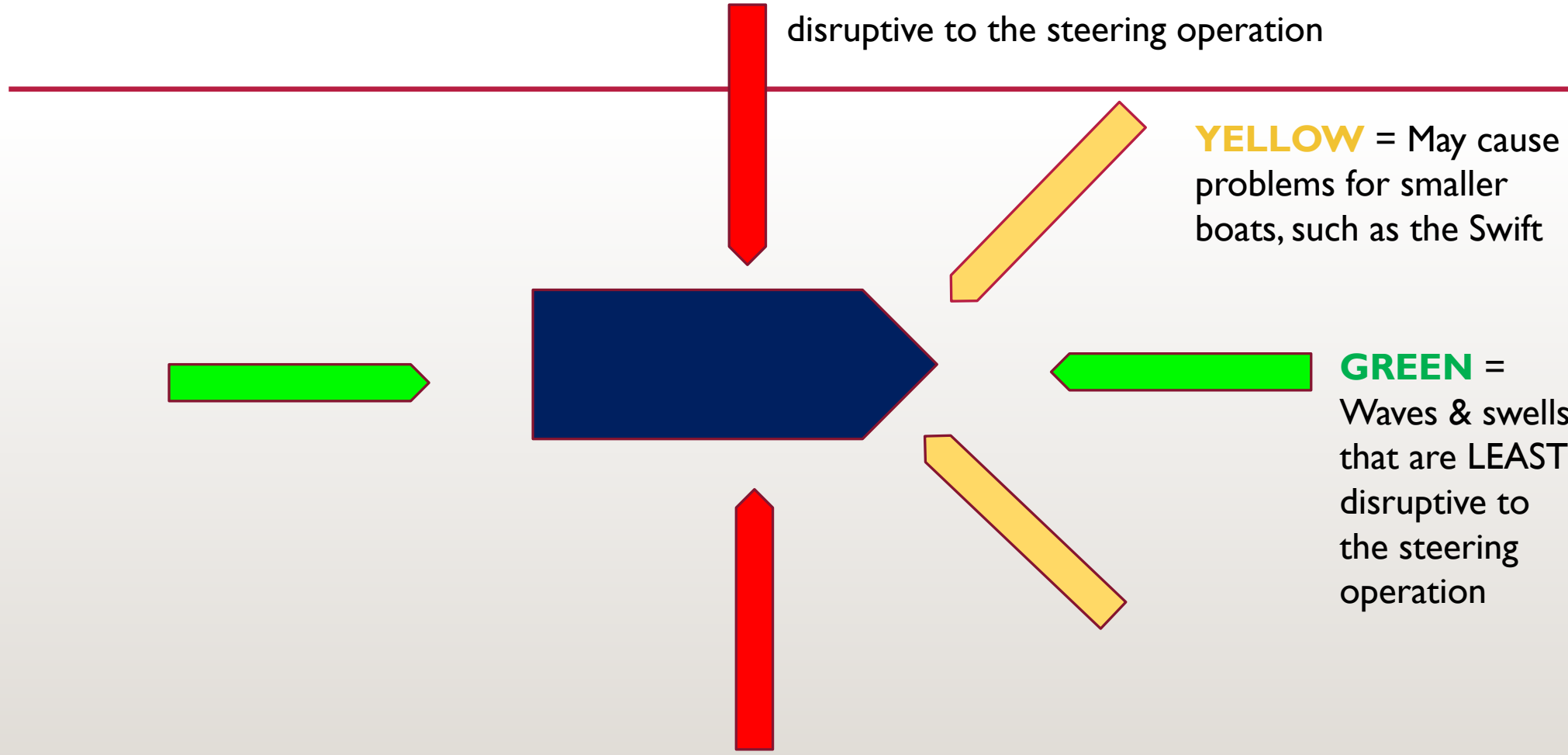
- 25 mph = 21.7 knots

# BOAT ALIGNMENT

**RED** = Waves & swells that are MOST disruptive to the steering operation

**YELLOW** = May cause problems for smaller boats, such as the Swift

**GREEN** = Waves & swells that are LEAST disruptive to the steering operation



# TSUNAMI

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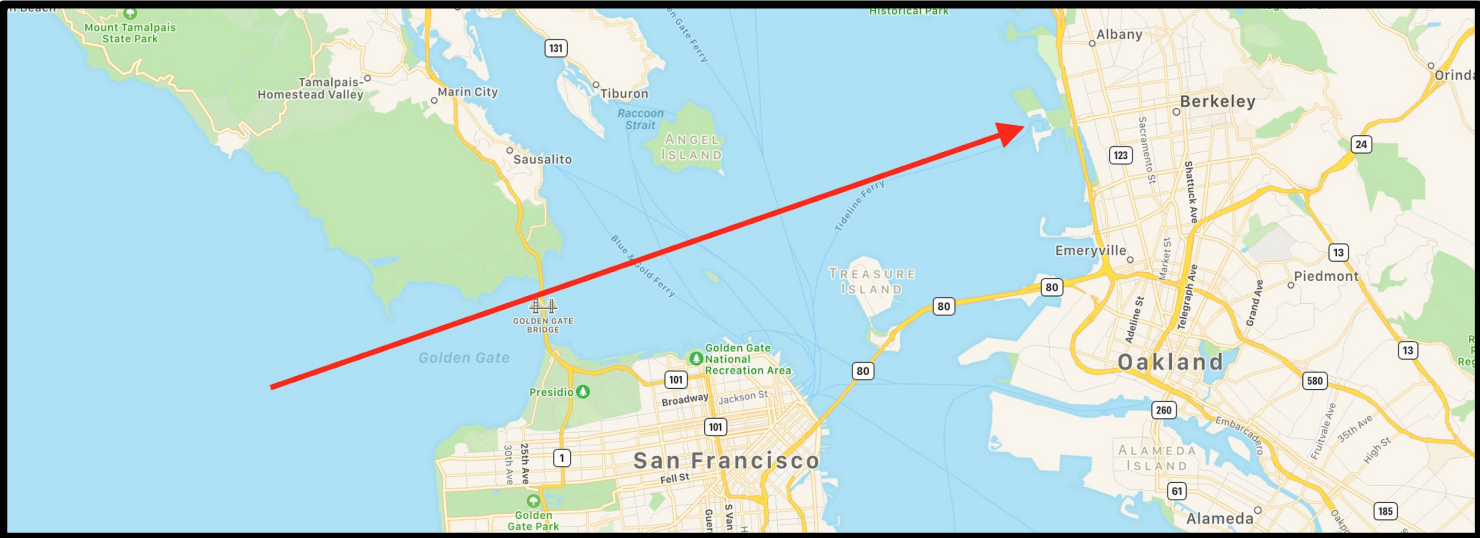
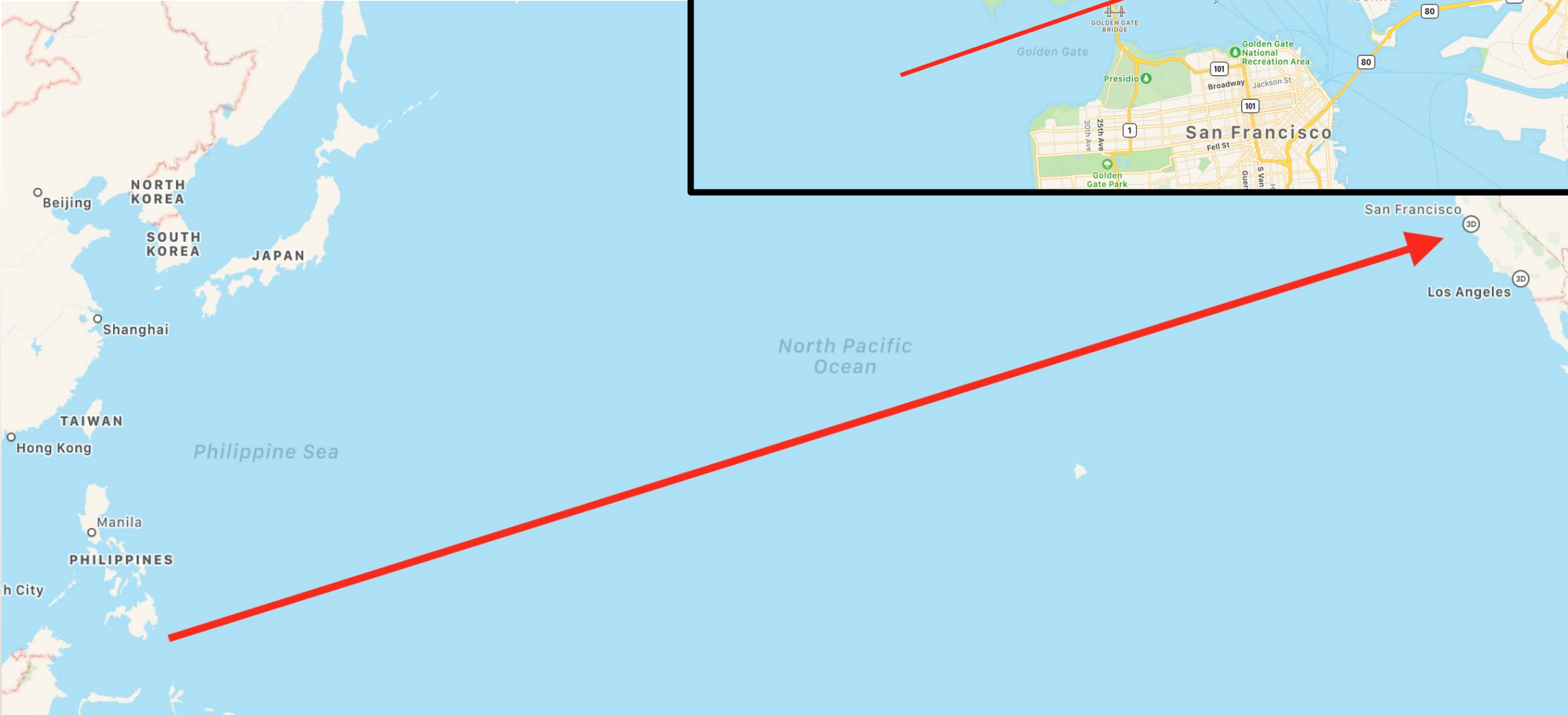
- Early Warning Signs
  - ✓ 1) Water in the marina quickly moves out
    - ✓ Boats will tip over, so numerous masts no longer be vertical
    - ✓ Water wildlife will be caught in the exposed mud and flapping around, including fish and seals
- At this point, **DO NOT INVESTIGATE!**
  - ✓ You have seconds to minutes before the tsunami hits
  - ✓ Front of the marina (BYC specifically) will take brunt of tsunami
  - ✓ Immediately get to higher ground or to the back of the marina (towards hotel)
  - ✓ After the initial tsunami hits, **additional tsunamis will follow**; this is where a lot of casualties occur as it is still NOT safe!

# TSUNAMI

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- NOAA Animation
  - ✓ <https://www.youtube.com/watch?v=KB-TO5kq5Aw>
- 2011 Tsunami hits Santa Cruz Harbor
  - ✓ <https://www.youtube.com/watch?v=C0Afa4pjWg4>
- What makes the Berkeley Marina vulnerable?
  - ✓ Since we are directly across from the Golden Gate, a tsunami originating to the west-southwest across the Pacific from us; specifically any large earthquake/volcanic eruption near the Philippines or Indonesia

# TSUNAMI





# TSUNAMI

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City of Berkeley Soundcloud:

<https://soundcloud.com/cityofberkeley>

City of Berkeley Tsunami Advisory Message:

<https://soundcloud.com/cityofberkeley/tsunami-advisory-message>