



Weather





Purpose

To ensure mission success, an operator must be able to forecast weather patterns, changes in environmental conditions, and use environmental indicators to identify the onset of heavy weather.

It is the responsibility of the boat operator to check and monitor the weather.



Learning Objectives

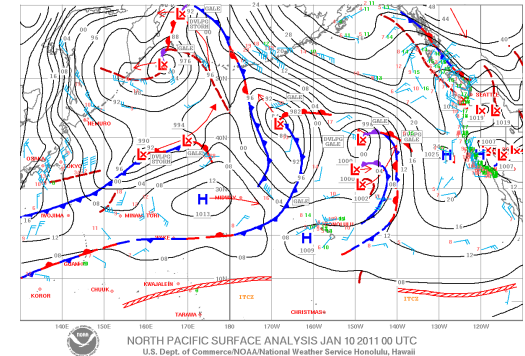
By the end of this chapter, the participant will be able to:

1. Identify three ways to get weather forecasts
2. Describe weather and environmental conditions that can make boating hazardous
3. Describe the use of clouds to predict changing weather.
4. Predict the high and low tide in your area, as applicable.

Weather Forecasts

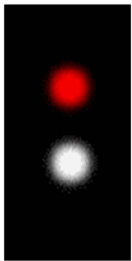
Where can you get weather forecasts in your area?

1. Local news
2. Websites
3. VHF Radio
4. Harbor Master

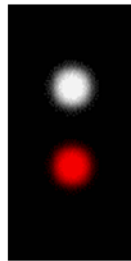


National Weather Service Storm Advisories

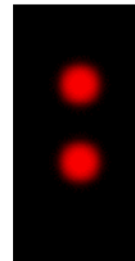
Small Craft
Advisory
Winds up to
38 mph



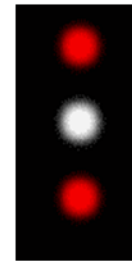
Gale Warning
38-54 mph
Storm Warning



Up to
73 mph
Hurricane
Warning



Winds over
74 mph





Weather Hazards to Boating

Wind

Surf

Rain and Fog

Current

Tides

Lightning

A combination of any of these factors can increase the danger to the boat exponentially.



Weather Hazards - Wind

- High wind can affect stability of the boat
- Wind over water (fetch) = Waves

Weather Hazards - Surf

- Surf = Waves that move into shallow water
- Most dangerous place - boats are **surf avoidance** vessels



Weather Hazards - Rain & Fog

- Causes restricted visibility
- Rain squalls - increase winds
- Onset can be rapid



Weather Hazards - Current

- Tidal currents can affect navigation
- Hull type will determine how a boat reacts in currents
- Currents will be stronger near shore and restricted inlets



Weather Hazards - Tides

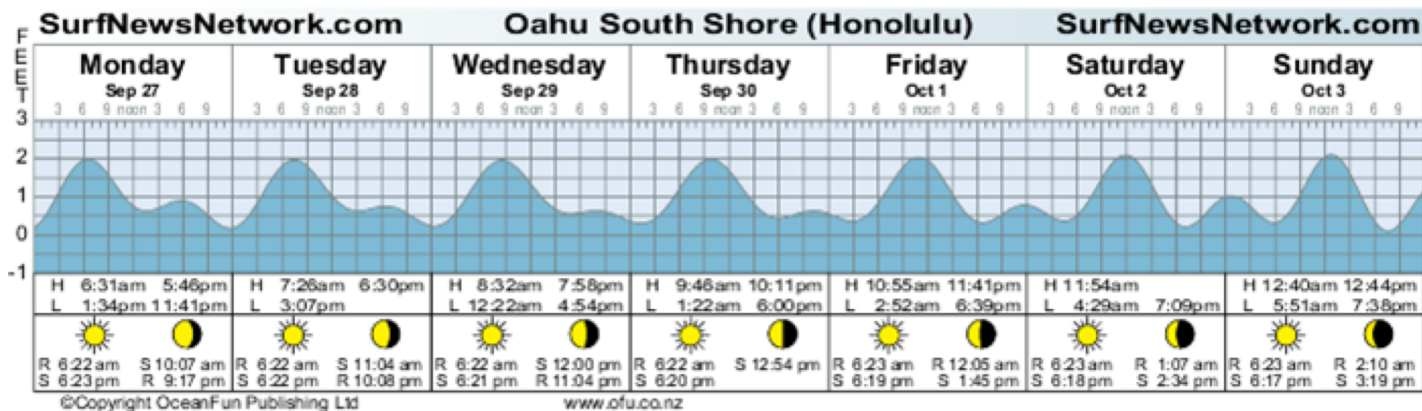
- Rise and fall of the waters surface.
- Tidal fluctuations differ by area
- May cause strong currents, shallow areas, dangerous surface conditions (standing waves, choppy surface, etc.)



Tides

Tide tables are available at most coastal stores and marinas

- Based on a tide gauge in your region
- Correct for your location
- May also provide additional information, i.e. moon and sun rise/set, moon phases, etc.



Lightning

All thunderstorms are dangerous to boaters because they contain lightning

For more detailed information on lightning please refer to "Boating-Lightning Protection"



Weather - Clouds

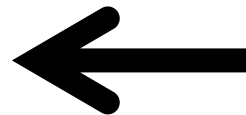
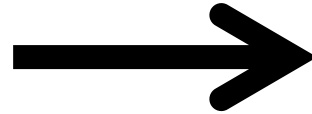
Clouds are a good indicator of changing weather, wind direction



k9313900 www.fotosearch.com

Weather - Clouds

Increasing clouds = Increasing weather





Weather

How to Avoid Being Caught In Foul Weather:

- Tune a portable radio to a local station that gives weather updates.
- Be alert to the weather you can see.
Developing clouds, shifting winds and graying skies all may be indications of danger.
- Listen for distant thunder.
- Track changes in barometer readings.



Weather

How to Avoid Being Caught In Foul Weather:

- Watch for wind direction shifts which usually indicate a weather change.
- Watch for lightning and rough water. Boats, are vulnerable to lightning if not grounded.
- Watch the weather to the west, the direction from which most bad weather arrives. However, be observant of weather from all directions.



Heavy Weather

If you are caught in foul weather:

- STAY CALM
- Tune VHF to weather for updates
- Close all hatches, windows, etc.
- Distribute weight evenly and secure all items
- Keep bilge free of water
- Stay low and towards middle of boat
- Set a lookout
- Ready anchors in case of engine failure
- Inform shore contacts of situation
- Reduce speed, head for shore, put bow at a 45 degree angle into waves



Questions?