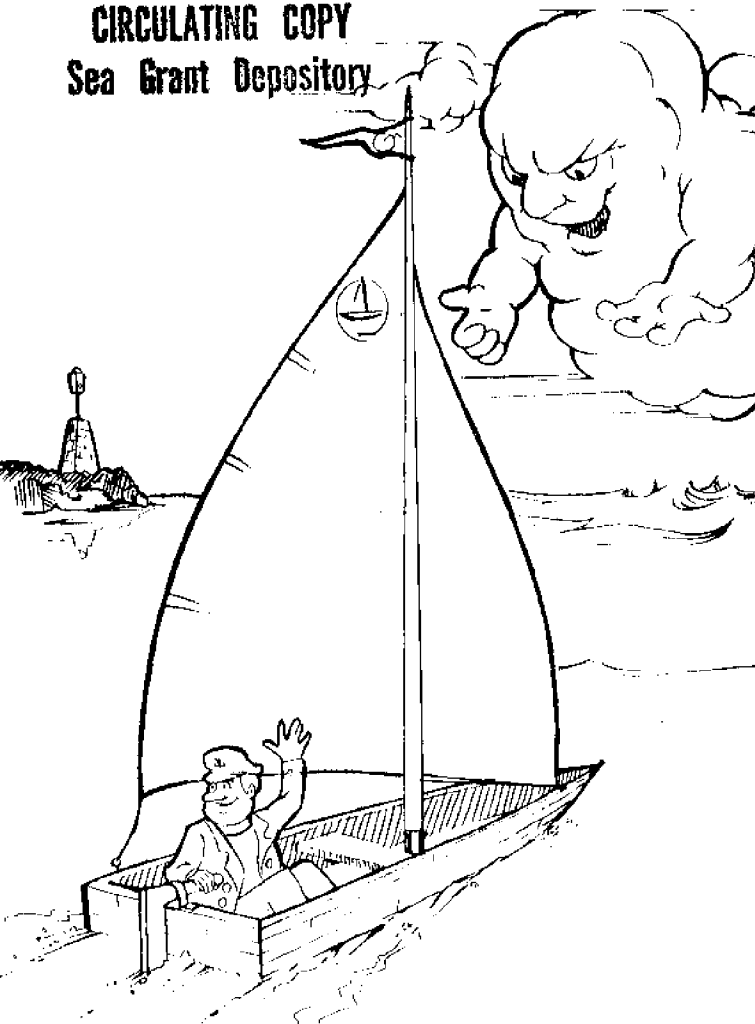


to go Boating!

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Sea Grant Depository



**Hints on Coastal Boating
in Southern California**

*This publication has been prepared by the
University of Southern California
Sea Grant Marine Advisory Services*



*In cooperation with the:
Southern California Boating Safety
Advisory Group
National Weather Service
U.S. Coast Guard
California Department of Boating and
Waterways*

*Fourth printing and updating: 1981
USC-SG-AS-04-81*

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Hanna Barbera Productions*

*It is printed as a public service by:
Dr. George Fischbeck
Eyewitness News*

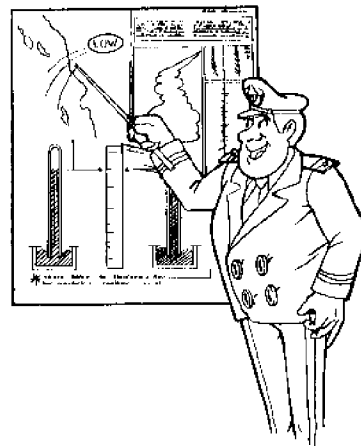


WEATHER to go Boating!

Southern California marine boating is an all-year affair. Although there are a variety of weather conditions and seasonal trends in Southern California, there is no season in which boating is out of the question. In fact, Southern California generally has such good weather that boaters may forget that bad weather and sudden storm conditions can and do play their part on these waters.

There is no substitute for obtaining the best possible weather forecast before embarking on a trip and for monitoring the weather regularly while you are on your boat.

The purpose of this pamphlet is to help promote safe recreational boating by increasing your knowledge about weather, available marine forecasting services and boat handling in storm conditions.



The Importance of Weather to Safe Boating

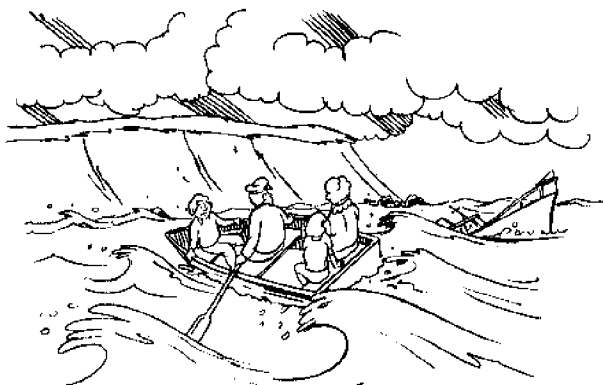
Weather conditions can definitely affect both the comfort and safety of your boating experience. And when bad weather and storm conditions are on the way, there is no time to take a short course in boating safety tips. As the boat's skipper, you should know how to obtain and use appropriate weather information and you should know how to handle your boat in adverse weather conditions. Remember, you are responsible for the safety of your family and guests.

If your boat is in trouble because of bad weather, you can bet that there are others in trouble also. Thus, even if the Coast Guard knows you're in trouble they probably will not be able to get to your boat immediately. You should be prepared to take emergency measures until help comes or, in some circumstances, until the storm conditions pass.

Tips For Handling Adverse Weather Situations

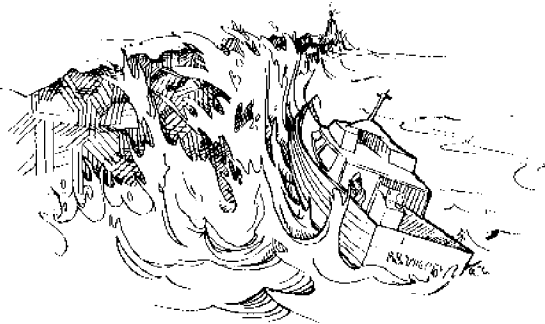
By observing seasonal trends in Southern California, you will realize that from November through April you should take extra precautions any time you leave port for more than a few hours. For instance, you should be carrying extra anchor line and a heavier anchor. Your anchor should be ready for use with blitter end secured. You should have chaffing gear, preferably canvas, leather or rubber, available to wrap around lines used for mooring, anchoring or towing. You should leave port with a full tank of fuel and refuel if possible on arrival at your destination.

Remember, the water temperature in winter is generally between 55° - 60° F., lowering your life expectancy to only a few hours should you end up in the water.



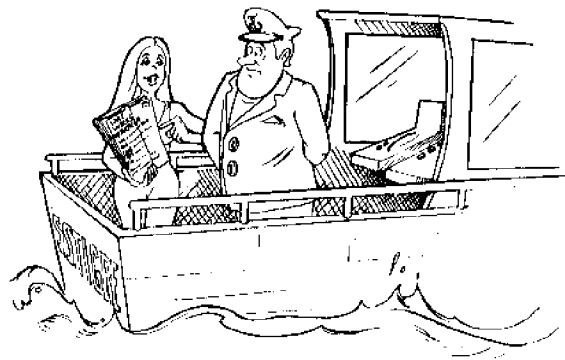
If you need to take refuge in a harbor because of storm conditions, you should heed these tips:

1. Stay away from the inshore two rows of moorings, or anchor at an equivalent distance from the shore, because the wave intensity increases near shore, causing heavy surf and breaking waves during storms.
2. Allow adequate scope on anchor lines.
3. Wrap chaffing gear on lines where they go through chocks.
4. Avoid using fairleads or chocks that are off the center line of the boat for mooring or anchorage. The boat will ride more easily if the lines are aligned with the boat's center.
5. On a bow/stern mooring, use a mooring that is no more than 10 feet longer than your boat, if possible.
6. Do not take a mooring designed for a shorter, lighter boat.
7. If the mooring is set for your boat's dimensions and if you have extra heavy line aboard, add it to the eye splice of the mooring line to give greater scope.
8. Keep the mooring spreader line on deck to avoid fouling with kelp.
9. Start your engine every 30-45 minutes to keep it warm.
10. If there is shore shelter available, get children off the boat.
11. Seek and heed local advice.



Sources of Marine Weather Information

Because treacherous weather develops and moves rapidly, the best weather information is the most up-to-the minute report. Thus, the most valuable source of weather reports is the NOAA National Weather Service's VHF Weather Radio, a system designed primarily for boaters. Most of the system's weather observations are taken at three-hour intervals with much better coverage during the day than at night. The forecasts are broadcast continuously, and updated whenever conditions change or warnings are needed.



Even an inexpensive (less than \$20) portable VHF receiver will adequately serve the needs of most recreational boaters, although this will not provide you with emergency transmitting capabilities. Some general use AM-FM radios and marine VHF transceiver systems will also receive the NOAA VHF weather broadcasts. The units may be purchased with an alarm system that automatically turns the radio on when an advisory or warning is issued. This avoids the necessity of constant monitoring to keep abreast of changing conditions.

Tune your VHF to:
Weather Station 2 in Los Angeles
Weather Station 1 in Santa Barbara
and San Diego

Other sources of marine weather reports are:

Single Side Band – 2670 MHz
(Coast Guard Chan.)



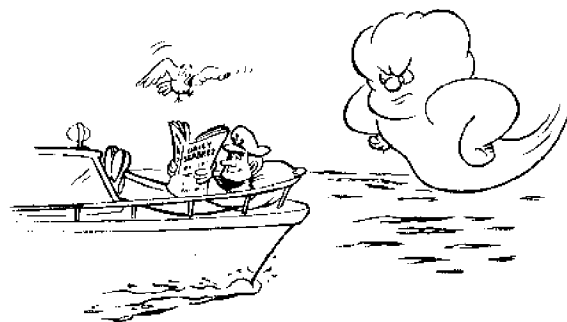
Telephone weather numbers:

- Santa Barbara (805) 962-0782
- Los Angeles (213) 477-1463
- Newport Beach (714) 675-0503
- Dana Point (714) 496-2210
- San Diego (714) 289-1212
- Santa Maria (805) 925-0246

Radio stations with special services:

KBIG Channel Watch, 104 FM
KNX, 10.70 AM

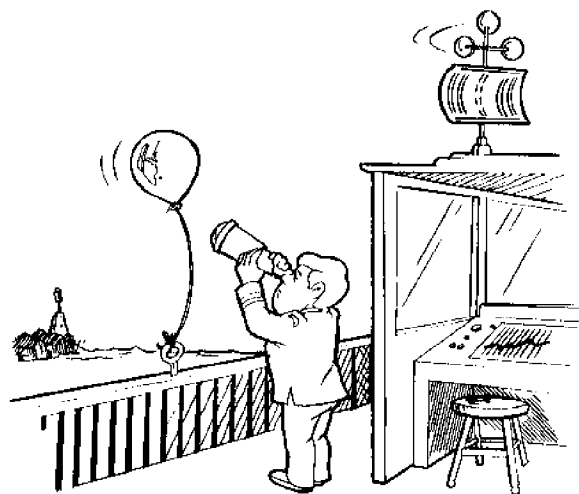
Newspapers and radio and television are helpful for a long-range overview, but should not be relied on for up-to-the minute weather. In Southern California, barometric pressure readings have proven to be unreliable indications of weather change.



Understanding Marine Weather Information

The Marine Weather observations available on VHF give a good idea of what is happening currently in the coastal areas of interest to you. The forecasts are predictions of coming weather patterns. Although forecasts are generally for a whole region, some conditions may be very localized near the reporting point.

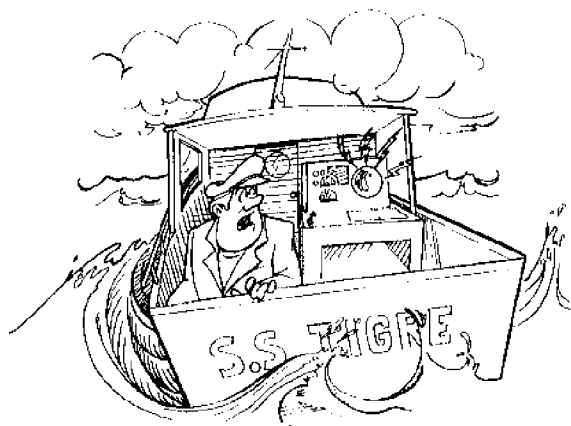
The area covered by the Southern California coastal forecast is Point Conception to the Mexican border and out 60 miles. The "out 60 miles" covers the offshore islands, where a good deal of boating activity occurs. Because conditions around these islands are often much different than near-shore (usually worse), the forecasts will often give the near-shore and offshore conditions separately.



The forecast tries to highlight dangerous conditions. The usual order of forecast material is: wind and wind waves (surface chop), swells (long period roller coaster usually generated by distant winter storms), surf conditions (if unusually big), and sky conditions (including rain, haze and fog).

An advisory or warning is used to point out hazardous conditions as well as describe the expected wind and waves. The term "advisory" is used when conditions for small craft

could be dangerous. The term "warning" is reserved for conditions that will probably be dangerous for any size craft. A system of red warning flags, affectionately called "maggie's drawers," has been used for many years to foretell potential weather dangers. These flags are displayed at yacht clubs, harbor offices and other marine facilities. While the water may be calm in the protected harbor area where a small craft advisory is displayed, the warning frequently relates to pending and/or open ocean conditions.



Recognizing Weather Signs

One of the most deceiving weather patterns is the Santa Ana wind. A Santa Ana wind may change a flat blue sea into an area of raging white caps in a few hours. The sky may be very clear and the humidity extremely low, making it seem

U.S. Storm Warnings

Small Craft Advisory:

winds up to 38 mph
(force 7-33 knots)



Gale Warning:

winds up to 54 mph
(force 9-47 knots)



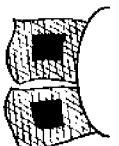
Whole Gale Warning:

winds up to 73 knots
(force 11-65 knots)



Hurricane:

winds 74 mph & over
(force 12 knots & over)



(Shaded areas are red)

like the perfect day for an outing. A few near-shore white caps can tip you off that a blow is imminent, or a forecast of moderate northeasterly winds below canyons is often a tip that stronger Santa Anas are brewing. Although warm Santa Ana winds can affect coastal waters, the cold Santa Anas forebode the worst weather.

*Snow on the mountains –
watch for Santa Anas on offshore islands*

*Dry decks deceiving –
beware of Santa Anas*

*Morning dew on decks –
the weather will hold*

*If you can see the Channel Islands –
anticipate rough weather*

What can you tell from the wind?

8 - 12 knots – a nice day

12 - 15 knots – a little cold and wet

15 - 20 knots – uncomfortably wet and rough

20 knots + – LOOKOUT!



If any of these winds are blowing in a direction different from that of even a 2-3 foot ground swell, a confused sea condition will result.

If you are at sea, you will know that the wind is already 12 - 15 knots if white caps are beginning to build. Winds that increase, bringing more white caps and even some spray, signal a warning to smaller boats in particular to head toward home or the nearest port.

**IF ADVISORIES ARE POSTED, BE READY TO
ALTER YOUR BOATING PLANS. STAY ASHORE
AND SAVE YOUR BOATING FOR CALMER SEAS.**

Seasonal Trends in Weather

For making advance plans for trips, it may help to be aware of seasonal trends in Southern California weather.

From early May through October, excellent boating conditions prevail with very little risk of hazardous winds, seas or poor visibility. While good boating conditions are frequent throughout the remainder of the year, nearly all weather-related accidents occur in the late Autumn, Winter, and early Spring months.

Rough Weather Patterns – November through April

Particular danger to boaters occurs during strong northwest wind conditions that develop with and just after cold fronts. These fronts, or boundaries between warm and cool air masses, sometimes bring extensive cloudiness and rain, but most often they are characterized by just a few clouds and showers, hardly indicative of impending rough weather. As the front passes, strong northwest to north winds will build up to speeds of 25-40 knots and stronger. These high winds pile seas up to heights of 5-10 feet and occasionally up to 15-20 feet.

These wind conditions occur more frequently over the outer Channel Islands and along the Santa Barbara and Ventura coasts than farther to the south.

But northeasterly Santa Ana winds often follow the northwest wind pattern. These winds result from a build-up of very high pressure over Nevada and Utah. They are accelerated by funnelling through canyons and passes. Most of the time these winds blow only moderately strong, 15-25 knots, below the coastal canyons northwest of Santa Monica Bay and below Santa Ana Canyon in Orange County.

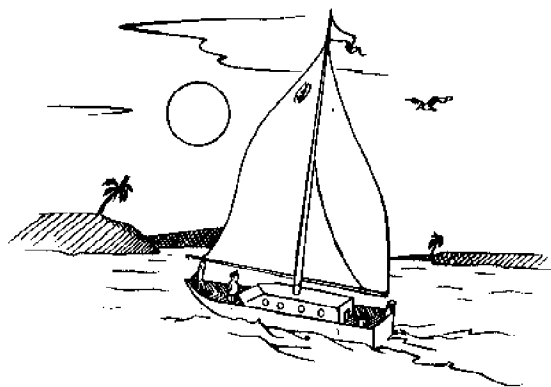


However, on occasion they blow over all the coastal areas with speeds as high as 50-60 knots below some canyons. They can strike offshore exposed areas, such as Avalon Bay on Catalina Island, with sudden strong winds and 10-15 foot waves.

Near-zero visibility caused by dense fog is another serious hazard. This usually develops during the late Autumn and Winter months, after a brief period of fine, clear weather that follows a Santa Ana. Clues that fog is about to form are a noticeable rise in humidity and a decrease in visibility caused by haze and smog.

Fair Weather Patterns – May through October

From May through October, most days are characterized by night and morning low cloudiness with light winds, clearing to mostly sunny skies and an 8-15 knot afternoon sea breeze. Santa Anas that do develop are usually weak. However, a word of caution — moderate to strong northwesterly winds and big waves can develop around the Channel Islands at any time of the year.

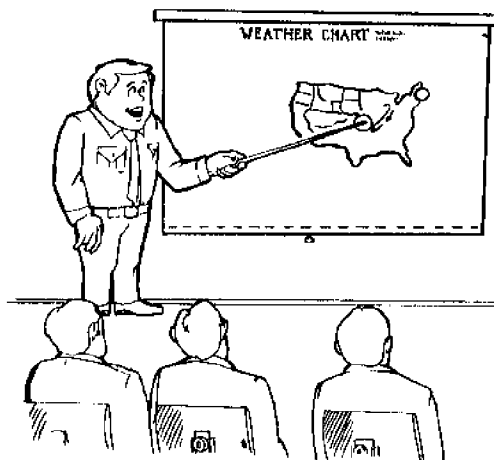


Unusual Weather Patterns – Year-Round

Thunderstorms, waterspouts, hurricanes, and tsunamis are rare occurrences in Southern California coastal waters. If the weather forecast warns of any of these conditions, extreme caution should be exercised. Tsunami warnings and watches are covered extensively on NOAA VHF radio.

Boating Safety Classes

For additional information on boat handling, weather and safety tips, contact the U.S. Coast Guard, at (213) 590-2217, or the U.S. Power Squadron. Free boating safety classes are frequently offered.



Visual Distress Signals

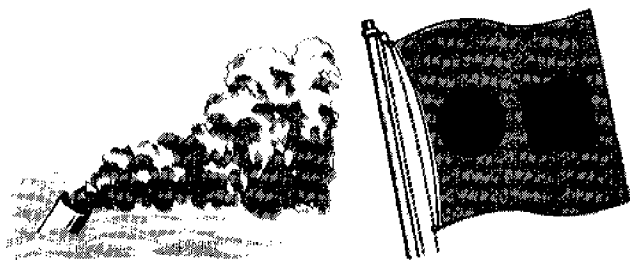
Effective Jan. 1, 1981, the law requires recreational boats, with certain exceptions, to be equipped with visual signaling devices that, in combination, are suitable for day use and for night use. The signaling devices must be Coast Guard approved.

It is strongly recommended that all recreational boats be equipped with visual distress signals at all times.

Mandatory Distress Signals

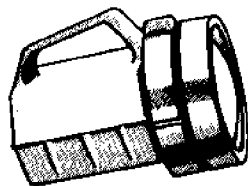
Day Use Only:

- ORANGE SMOKE, either hand-held or floating, or
- ORANGE FLAG with black circle and square (minimum 3' x 3' size)



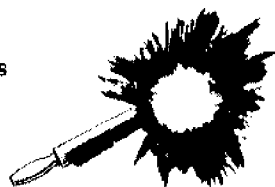
Night Use Only:

- SIGNAL LIGHT that automatically flashes SOS

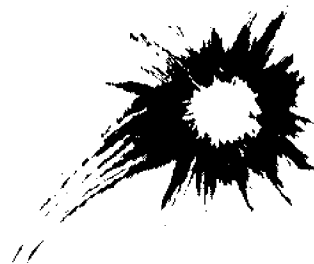


Day and/or Night Use:

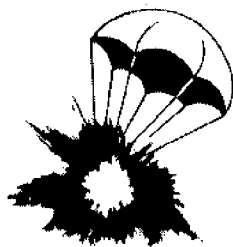
- RED FLARES, various types available including:



Hand-Held



Meteor



Parachute

There are a number of other signals that have been traditionally used by boaters in distress. These signals, a few of which are shown, can be carried and used, but they *cannot* replace those day and night signals prescribed by regulations.

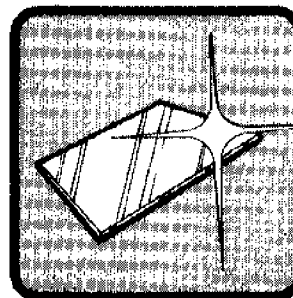
Optional Distress Signals



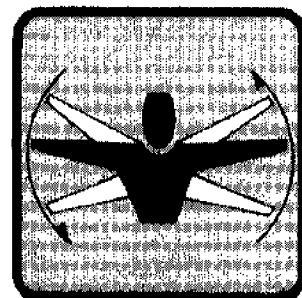
Fog Horn



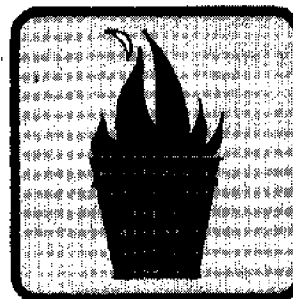
"Mayday" by Radio



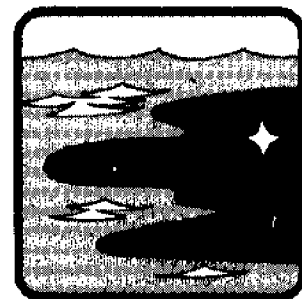
Signal Mirror



Wave Arms



Fire in Bucket



Dye Marker (Any Color)

Further information on mandatory and optional visual distress signals is available from your local Coast Guard boating safety office, or by writing to U.S. Coast Guard (G-BEL-4), Washington, D.C. 20593.

MARINE EMERGENCY AND DISTRESS RADIO PROCEDURES

Speak Slowly and Clearly

NOTES

Call:

1. If you are in DISTRESS (i.e., when threatened by grave and imminent danger) transmit the International Distress Call on Chan. 16 "MAYDAY MAYDAY MAYDAY. THIS IS (your vessel's call and name repeated THREE times)."
2. If you need INFORMATION OR ASSISTANCE FROM THE COAST GUARD (other than in a distress), call COAST GUARD on Chan. 16 (The Distress and Calling Frequency). In this situation you will normally be shifted to a common working frequency (Chan. 22A) allowing the DISTRESS frequency to remain open.

*The Radiotelephone Alarm Signal (if available) should be transmitted prior to the Distress Call for approximately one minute. The Radiotelephone Alarm Signal consists of two audio tones, of different pitch, transmitted alternately. Its purpose is to attract the attention of persons on watch and shall only be used to announce that a distress call or message is about to follow.

IF ABOARD A VESSEL IN TROUBLE – state:

1. WHO you are (your vessel's call and name).
2. WHERE you are (your vessel's position in latitude/longitude or true bearing and distance in nautical miles from a widely known geographical point; local names known only in the immediate vicinity are confusing).
3. IF you require Coast Guard assistance, and whether or not you are in immediate danger.
4. WHAT is wrong (nature of distress, or difficulty if not in distress).
5. Kind of assistance desired.
6. Number of persons aboard and the condition of any injured.
7. Present condition of your vessel (e.g., taking on water).
8. Description of your vessel — length, type, cabin, masts, power, color of hull, superstructure and trim.
9. Your listening frequency and schedule.

IF OBSERVING ANOTHER VESSEL IN DIFFICULTY – give:

1. Your position and (if possible) the bearing and distance of the vessel in difficulty.
2. Nature of distress or difficulty.
3. Description of the vessel in distress or difficulty (see Item 7 above).
4. Your intentions, course, and speed, etc.
5. Your radio call sign, name of your vessel, listening frequency and schedule.

**NOTIFY THE COAST GUARD PROMPTLY AS
SOON AS THE
EMERGENCY TERMINATES**