



VHF Emergency Technology

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Three technologies that make you safer on the water

1. Coast Guard
Rescue 21 System
2. Digital Selective
Calling (DSC)
3. Automatic
Identification
System (AIS)



Coast Guard Rescue 21 System

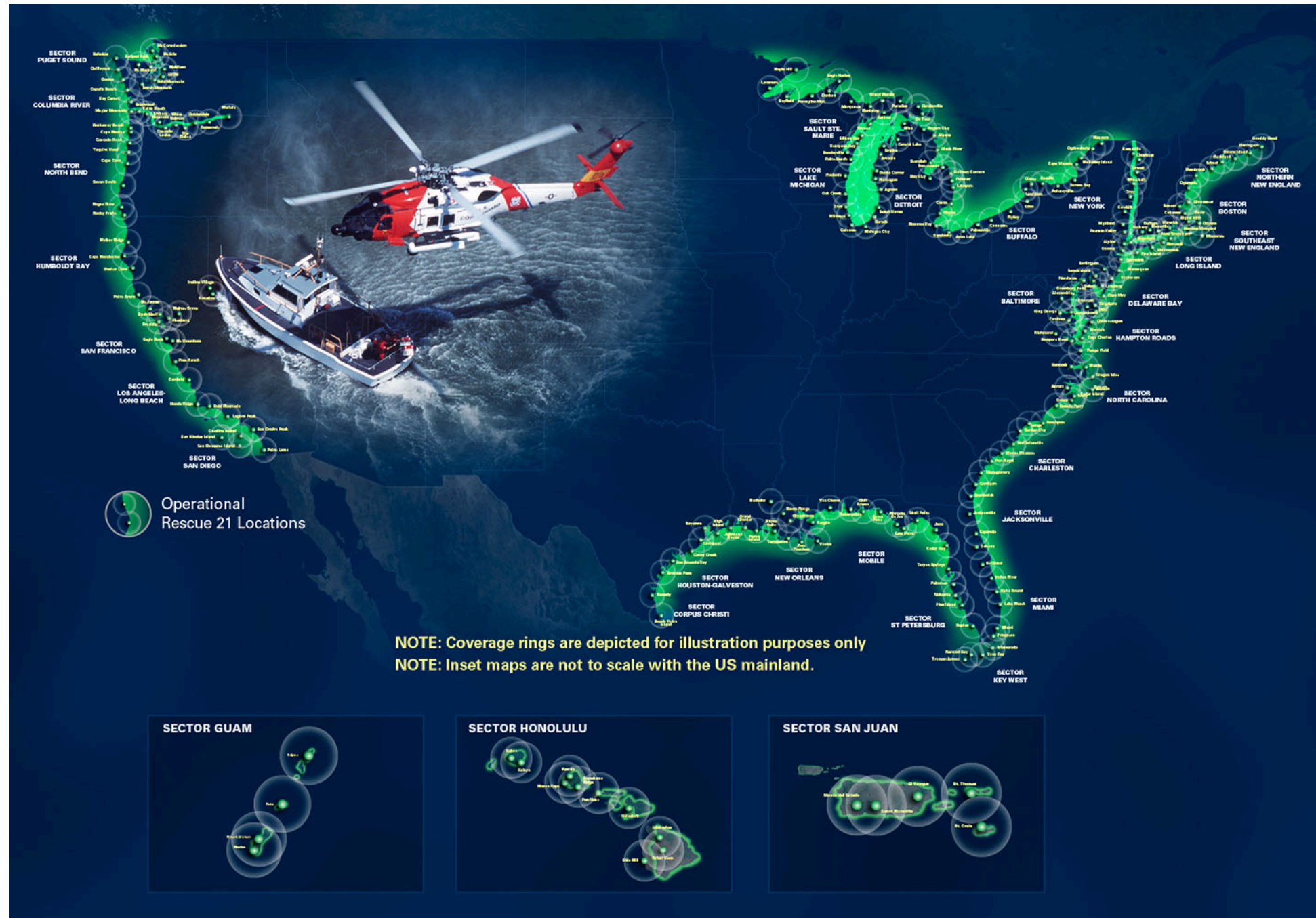
- A network of 210 radio towers and stations developed in 2005 by General Dynamics.
- Developed to improve the Coast Guards direction finding capabilities for DSC and non-DSC equipped vessels
- Locates vessels by triangulating their transmission signal
- Covers 20 miles seaward on all coastal US waters
- When used in conjunction with DSC transmission, results in fast and efficient rescue operation



Rescue 21 Coverage “Sea Area A1”

20 Nautical miles out
From every coast.

210 radio towers and
Stations line the coasts.





Rescue 21 System

First Rescue
11/13/2005



Digital Selective Calling (DSC)

- Became available 15 years ago
- Have distress button
- DSC radios send data digitally over radio waves to Coast Guard and nearby boaters.
- Allows inexperienced boaters to send a distress signal
- Repeats distress signal, even if you cannot



DSC Calls Can Be Categorized:

- Fire / explosion
- Flooding
- Collision
- Grounding
- Listing
- Sinking
- Disabled
- Abandoning ship
- Piracy / attack
- Man overboard



3 Steps To Activate Your DSC VHF Radio

1. Get an MMSI (Marine Mobile Service Identity) number
 - www.usps.org/php/mmsi/rules.php
 - www.seatow.com/boating_safety/mmsi.asp
 - www.boatus.com/mmsi
2. Program your MMSI number into your radio.
3. Connect your VHF radio to your GPS (unless your VHF has an internal GPS)





- Press **RED** distress button
- If you release immediately, DSC menu appears on screen
- You can now select to call all ships, one ship or a group
- You can select type of disaster that is occurring
- If you keep finger pressed on Distress button it will automatically start sending distress call out on channel 70.
- A loud alarm will sound on all nearby boats with a DSC radio. Once the call is accepted by another vessel, both radios will switch to channel 16 for voice communication.
- Your MMSI, boat name and position will appear on all radios that received your call.



DSC Radio Call Process

Non-Emergency Uses For DSC

- “Ring” another DSC radio direct (vessel, dockmaster, marina)
- “Ring” a group of vessels, such as your fellow Squadron members
- Locate another DSC vessel
- Automatically poll location of a vessel or group of vessels



Automatic Identification System (AIS)

- Short range coastal tracking system intended to assist in collision avoidance with nearby AIS equipped vessels
- All commercial vessels transmit AIS signal
- Only AIS equipped VHF radios can detect AIS signals
- AIS equipped VHF radios show location of nearby vessels on screen, similar to radar.
- You can obtain MMSI number for any nearby AIS vessels and “ring” them direct.





Next Month's Lesson:

Commissioning
Your Boat for
Service in the
Spring



