U.S. Coast Guard
Maritime Domain Awareness

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12 August 2009
USCG Global Missions

Maritime

Safety

Security

Stewardship
Challenges to Global Security

- Organized crime
- Piracy
- Drug smuggling
- Human smuggling and slavery
- Illegal weapons movement & proliferation
- Terrorism
- Exclusive Economic Zone (resource) exploitation
- Illegal fishing
- Trade disruption
- Illegal migration
- Search and Rescue
- Environmental attack

Nations find their well-being challenged by these common threats to Maritime Security
### CG Mission Programs

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<td>• Ports, Waterways, &amp; Coastal Security</td>
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Exclusive Economic Zone (world’s largest)
Maritime Governance

Regimes
(Policies, Regulations)

Awareness

Operations

Unity of Effort

International

Private Sector

Government

Across the Maritime Domain
...the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy, or environment
Freedom of Navigation in the Arctic

Russia
Arctic Ocean
Bering Sea
Alaska
Canada
Greenland
North Atlantic Ocean
Northern Sea Route
Northwest Passage
The Bering Strait
U.S. Coast Guard Observing Activities

• Provider
  – USCG Station Observations*
  – Observations from Sensors at USCG Sites*
  – USCG Cutter Observations*
  – USCG Aircraft Observations
  – USCG Polar Icebreaker Observations
  – Self-Locating Datum Marker Buoys (SLDMB)
  – National Ice Center (Navy, NOAA, and USCG)
  – International Ice Patrol
  – Radio Broadcasts*
  – GPS Surface Observing System (GSOS) (NOAA)
  – NOAA National Data Buoy Center (NDBC)+

*Coordination with UNCLOG (USCG/NWS Coordination Liaison Group)
+Vessel, aircraft, and boat support for data buoy deployments, retrievals, etc.
Arctic & Near Arctic Observations: USCG Examples

- International Arctic Buoy Program (IABP)
  - USCGC HEALY deployed 12 buoys in the Arctic Ocean in 2008 and plans to deploy 11 in 2009

- ARGO Program
  - ARGO float deployments in Arctic Ocean by USCGC HEALY
  - ARGO float deployments in southern ocean s by USCG icebreakers during transit to Antarctica.

- SLDMB Program
  - Deployments in Bering Sea for Search & Rescue Program

- Vessel and Aircraft Support for NDBC Data Buoy Program in Alaska

- Arctic Domain Awareness Program (D17) : Science-of-Opportunity measurements from cutters and C-130 flights

- NOAA GSOS Integrated Precipitable Water Vapor Program (5 sites in AK)
NOAA/GSD Ground-Based GPS Meteorology (GPS-MET)

EXPLANATION
- NOAA Site
- USCG/USACE Site
- DOT Site
- SuomiNet Site
- Other Agency or Institution Site
- Backbone Site
- Infill Site

Filled = Operating
Open = Planned
Arctic Domain Awareness

- Air Patrols
  - ‘Eyes on’ above the Arctic Circle
  - Provide scientists platforms of opportunity
    - Media opportunity to increase ADA at the global level

Barrow
Prudhoe Bay
Kivalina
Nome
Layered MDA
Layered MDA Sensor Coverage Areas

Long Range Identification and Tracking

• Global position reporting per SOLAS regulations.
• 4 daily broadcasts per IMO
• 160+ contracting governments participating in LRIT efforts
• Track 40,000+ SOLAS Class vessels globally
• Satellite-based reporting.

Nationwide Automated Identification System

• Nationwide network of towers & transceivers
• Similar to aircraft transponders
• VHF radio-based (line of sight technology), self-generated vessel reports per IMO/SOLAS
• Provides AIS data feed to CG enterprise data stores.
• Inside 50 NM: near real time reports (seconds/minutes).
• Inside 2000NM: less frequent satellite based coverage.

IOC

• Command Center monitors vessel behavior with radars and cameras.
• Corroborate vessel behavior with actions advertised in LRIT/NAIS and in ship reports
• Joint planning and ops tools
• Real-time op decision support.
• Covers critical port/coastal approaches to 24NM.

All tracking systems feed data to CG enterprise data warehouse for strategic fusion.
Commercial AIS Satellites from a Single Pass
National MDA Governance

A federal interdepartmental and interagency leadership structure

MDA SB meets monthly, G5 meet weekly

GMAII  DOT  DHS  DOD  GMSA

CNO-CCG Warfighter Talks
In Conclusion

- The US Coast Guard is one of many agencies in a layered approach to MDA
- A variety of sensors, analysis tools, technologies, & partnerships combine to guard our waters
- Global implementation & continued international partnerships are essential
- MDA is the key to effectively implementing any maritime security strategy
Questions?