



Coast Guard Polar Icebreaking





Agenda

- Missions & Strategies
- Current Icebreakers
 - Operations
 - Capabilities
 - Sustainment
- Icebreaker Acquisition
 - Stakeholders
- Summary





Coast Guard Icebreaking History, Missions & Strategies





USS Bear



CGC Eastwind



Future Trend

Multimission:
Enforcement,
Security, and
Science

Security

Discovery

Enforcement

Discovery

1900

WWII
USCG/USN
Wind class &
MACKINAW

1950' s
DEW stations
built - required
icebreakers for
re-supply

1965-66
USN transfers
all icebreakers
to USCG - 8
icebreakers

Late
1970' s
POLAR
STAR &
POLAR SEA
built

1980' s
Older icebreakers
decommissioned -
by 1989 only
POLAR STAR &
POLAR SEA remain

2000

2006-2009
PSTAR in
caretaker
status

2010-2013
PSTAR
reactivation

1885
Cutter BEAR explores
Alaskan waters for 40
years

1936-1941
USCG initiated
intensive study
of heavy
icebreaker
design

1946
Operation High
Jump -
Admiral Byrd' s
Antarctic
expedition

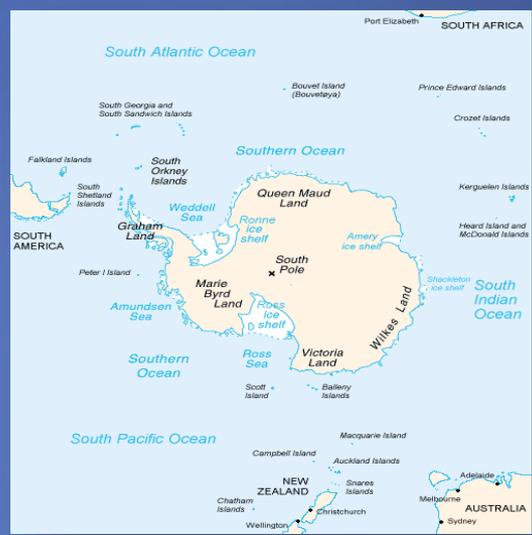
1955-56
First Operation
Deep Freeze
- permanent
U.S. presence
on Antarctica

1960s
Alaskan north
slope oil
discovered -
polar icebreakers
receive national
interest

1999/2000
USCGC HEALY:
Planned in
80' s, funded
90' s,
operational in
2000 to support
Arctic Research



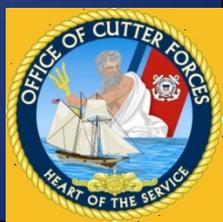
Polar Icebreaker Areas of Operation



McMurdo Station



Ensuring Global Access





Polar Icebreaker Areas of Operations

Arctic

- Arctic Scientific Research
 - National Science Foundation
 - Bureau of Ocean Energy Management
 - NOAA
 - CG R&D Center
- Increased Human Activity
 - Northern Sea Route / Northwest Passage
 - Search and Rescue
 - Shoulder Season Risk



Antarctic

- Operation DEEP FREEZE- Re-supply McMurdo Station, Antarctica
- Coast Guard supported US Antarctic Program resupply since 1950s
- Primary infrastructure and supply point for U.S. Antarctic Program; requires annual sealift re-supply (cargo, fuel)

Ensuring Global Access





Missions Polar Icebreakers Complete in the High Latitudes



Defense Readiness



Ports, Waterways & Coastal Security



Living Marine Resources & Other Law Enforcement (i.e. EEZ Enforcement)



Marine Environmental Protection



Aids to Navigation



Search and Rescue



Marine Safety



Ice Operations



Ensuring Global Access





Operation Deep Freeze (ODF): McMurdo Resupply



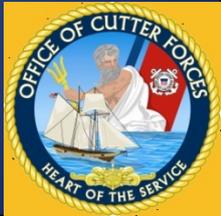
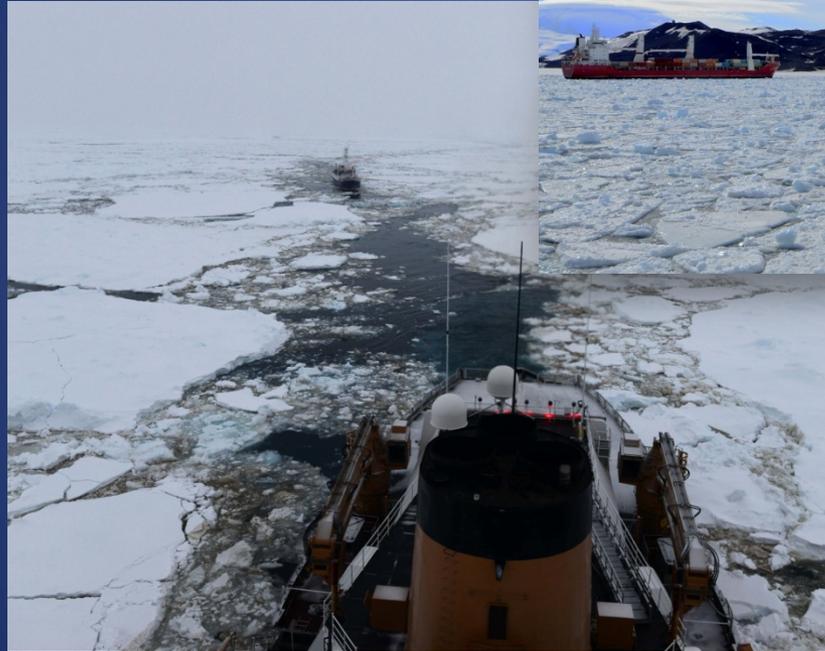
Cargo Amounts POLAR STAR ensured could reach McMurdo Station Antarctica, ODF 2015:

Category	Amount	% of Need
Dry Supplies (Vehicles, Food Stuffs, Building Materials)	7 Million Pounds	80%
Diesel Fuel	4.5 Million Gallons	100%
Jet Fuel	500,000 Gallons	100%





ODF Continued





M/V RENDA Escort





Scientific Research



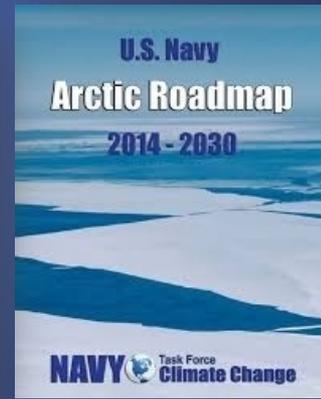
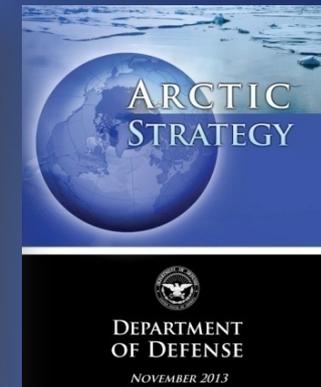
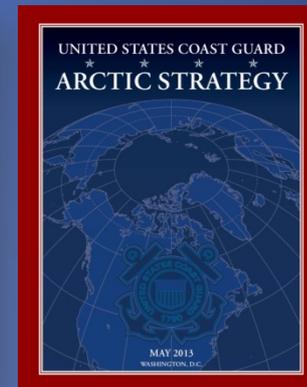
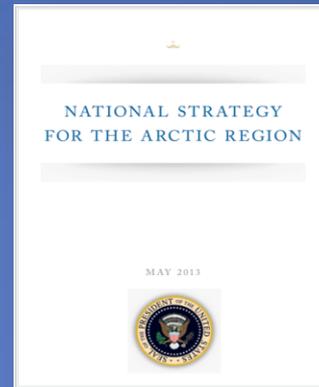
- Ecosystem Studies
- Arctic Mapping
- Ice Research
- Oil in Ice Research
- Extended Continental Shelf Mapping
 - Multi-year Effort with Canadians





Strategies

- National Strategy for Arctic Region (NSAR) & Implementation Plan (NSAR IP)
- DHS lead - “*Ensure the United States maintains icebreaking and ice-strengthened ship capability with sufficient capacity*”
- Coast Guard Arctic Strategy
- Cooperative Strategy for 21st Century Seapower (Joint USN/USMC/USCG strategy)
- Navy Arctic Roadmap
- NOAA Arctic Action Plan





Current & Future Icebreaking Capabilities

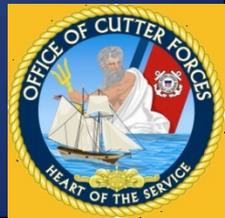




CGC POLAR STAR (WAGB 10)



- America's Heavy Polar Icebreaker
- Commissioned 1976
 - Reactivated in 2013
- Icebreaking Capacity
 - 6 feet @ 3 Knots
 - 21 feet Back & Ram
- Flight Deck Equipped
- Primary Mission
 - Operation Deep Freeze: Breaking Channel for McMurdo Station Resupply

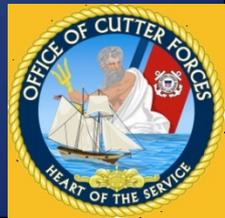




CGC HEALY (WAGB 20)



- America's Medium Polar Icebreaker
- Commissioned 2000
- Icebreaking Capacity
 - 4.5 feet @ 3 Knots
 - 8 feet Back & Ram
- Flight Deck Equipped
- Primary Mission
 - Annual Scientific Deployments to Arctic





Polar Icebreaker Sustainment



- Depot Level Maintenance
 - Dry Docks & Dockside Availabilities
- Organizational Level Maintenance

- Crew/Contract Preventative Maintenance
- System Upgrades
 - C4IT & Navigation Systems
 - Machinery Plant Control & Monitoring System





Polar Icebreaker Sustainment





Polar Icebreaker Acquisition



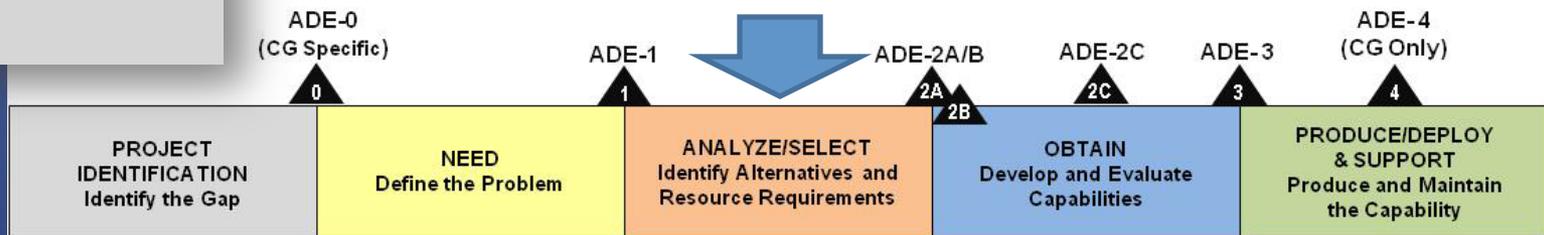
Acquisition Directorate

Major Systems Acquisition Manual (MSAM)

"Mission Execution Begins *Here*"

COMDTINST M5000.10C

- Coast Guard Program of Record
 - Assigned Program Management Office/Staff
- Completing Requirements Development and Validation
 - Drafting Operational Requirements Document
- International Coordination
 - Governments of Canada and Finland
 - Conducting Worldwide Market Research





PIB Acquisition Stakeholders



Department of State



National Science Foundation



Maritime Administration (MARAD)



US Navy – OPNAV Staff



Transportation Command (TRANSCOM)



US Marine Corps



US Arctic Research Commission



Northern Command (NORTHCOM)



National Oceanic & Atmospheric Administration



Department of Homeland Security HQ



Naval Sea Systems Command (NAVSEA)





Summary



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Questions

