Unmanned Maritime Systems for Oceanographic Applications and Hydrographic Missions

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America's Navy: Around the World, Around the Clock

Increasing Competition

Stronger, Faster, Smarter, Better

"Our adversaries are not going to hand victory to us – we're going to have to fight hard to win it."

Admiral John Richardson
Chief of Naval Operations

Asymmetric Advantage: Naval Oceanography

Providing the home field advantage at America's away games…

Naval Oceanography Strategy

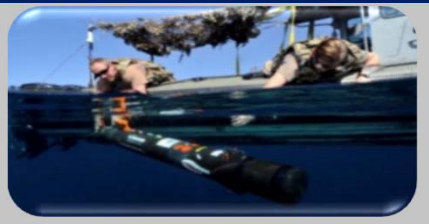
Electromagnetic Maneuver Warfare

Advancing Support for Distributed Ops

Undersea Warfare

Improving to Beat the Competition

Unmanned Systems



Winning the Away Games

People

People First Mission Always

Positioning, Navigation and Timing

Assuring Distributed Operations

Resource Protection

Expanding for More Sensitive Platforms

Naval Oceanography Inventory

Autonomous Underwater Vehicles

REMUS 6000s - 4
REMUS 2500s - 2
REMUS 600s - 8 *
REMUS 100s - 3

-1,800 Missions -58,000 Nautical Miles
-18,000Hours (661 Days)

* 2 REMUS 600 currently under acceptance testing

Gliders

136-in inventory
35 - Max gliders deployed at one time

- 177,000 miles traveled by gliders
- 335 Operational Deployments

Warfare Specific Inventory

10 - MK18 Mod 1/ REMUS 100 UUVs
2 - SEABOTIX ROVs
22 - Ivers (20 NOSWC/2 FST)
UAVs (Pumas, ScanEagles and quadcopters)
- UUVs traveled 972.87nm
- 147.38 nm^2 of ocean bottom surveyed

Others

Surface Drifting Buoys - 74
Profiling Floats – 183
Wave Gliders - 5

20 Years Over 200,000 Miles 20 Different Platforms

Enabler: Partnerships

CRADAs
Cooperative Research and Development Agreement

MOA
Memorandum of Agreement

JALBTCX
Joint Airborne Lidar Bathymetry Technical Center of Expertise

EPAs
Educational Partnership Agreements

PIAs
Partnership Intermediary Agreement

MSET
MISSISSIPPI ENTERPRISE FOR TECHNOLOGY
STENNIS SPACE CENTER

NOARC
National Oceans and Applications Research Center
New Technology - New Uses - New Economy

Building our Academic and Industrial Base

Future of Navy Oceanography

Distributed data collection, distributed predictive capability, and driving the distributed maritime fight

THANK YOU!