

Command Overview

One Team Warfare Centers



NSWC PANAMA CITY DIVISION

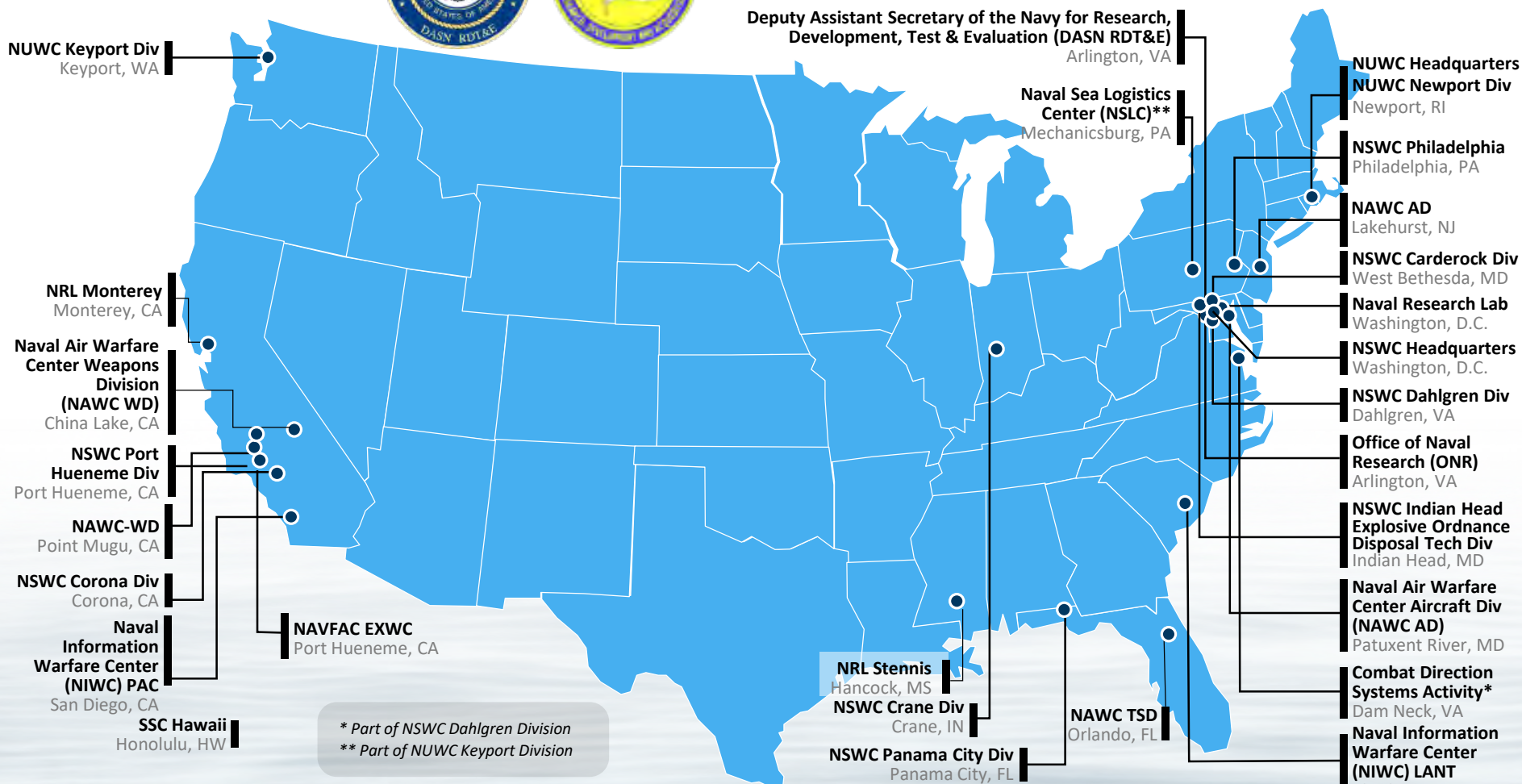
Expanding the Advantage through Collaboration



Distribution A:
Approved for public release.

Who Makes Up Our Workforce

Naval Research & Development Establishment (NR&DE)



Quick Facts

- ✓ Diverse and highly educated workforce with over 36,000 scientists, engineers, and technicians (more than 2,000 Ph.D.s); 50,000 employees; annual budget greater than \$20B
- ✓ 17 S&T Reinvention Laboratories (STRLs) spanning NAVAIR, NAVSEA, NAVFAC, SPAWAR, NRL and ONR
- ✓ Conducts RDT&E for the DoN to discover, develop, transition and field technologically superior naval warfighting capabilities.
 - ✓ Examples: prototype development, demonstrations and experimentation to accelerate the fielding of new operational concepts, technology and systems innovations.
- ✓ Unique RDT&E facilities and test ranges
- ✓ Infrastructure has combined Plant Replacement Value greater than \$15B
- ✓ All designated as S&T Reinvention Laboratories (STRL)

Aggressive Research, Development, Test & Evaluation for reliable real world solutions

NSWC PANAMA CITY DIVISION LEADERSHIP



DEPARTMENTS



01 Stacy Gibson
Comptroller



02 Mary Langfeldt
Contracts



10 Jaimie Brock
Corporate Operations



A Marc Eadie
Littoral Mine Warfare Systems (Acting)



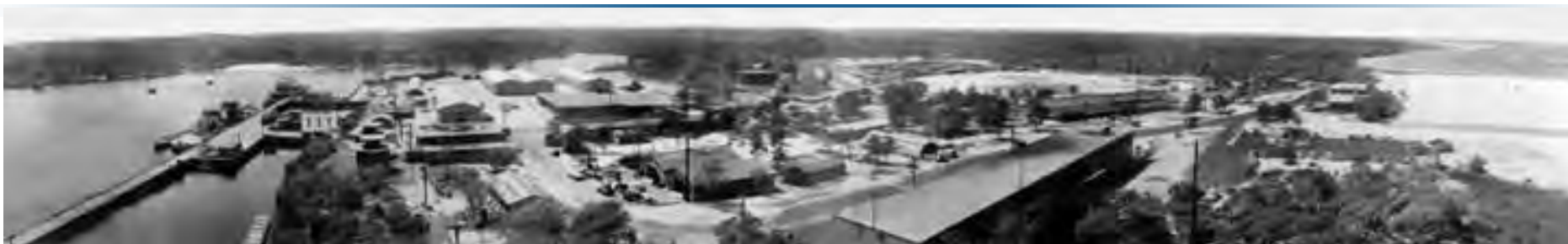
E Steve Hunt, SSTM
Expeditionary & Maritime Systems



X Dr. Keith Aliberti, SSTM
Science & Technology



Enduring Mission



U.S. Navy Mine Countermeasures Station - circa 1949

1945: Established by SECNAV James Forrestal, the Station was used for development and testing of allied and enemy mines. Capitalizing on the existing amphibious base, the Station was established with the following mission: *"To perform research, development test and evaluation in mine defense, acoustic and torpedo countermeasures, inshore undersea warfare, swimmer-diver equipment and techniques and in related fields of science and engineering."*



Naval Surface Warfare Center Panama City Division – circa 2015

Present Day: Naval Surface Warfare Center Panama City Division's mission is to conduct research, development, test and evaluation, in-service support of mine warfare systems, mines, naval special warfare systems, diving and life support systems, amphibious/expeditionary maneuver warfare systems, and other systems that occur primarily in coast (littoral) regions and to execute other responsibilities as assigned by Command, Naval Surface Warfare Center.



1945-1955



1955-1968



1968-1972



1972-1978



1978-1992



1992-2003



2003-Present

Vision, Mission, Capabilities

Vision

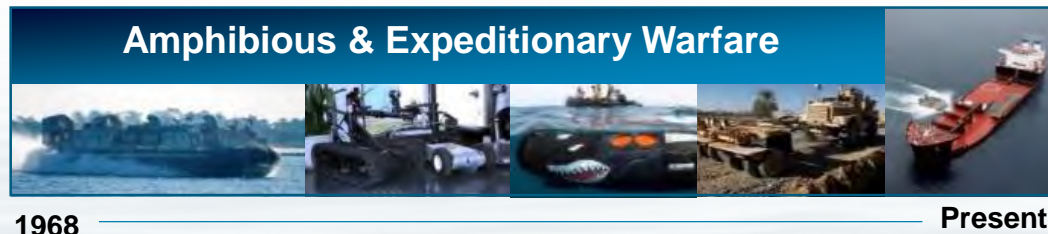
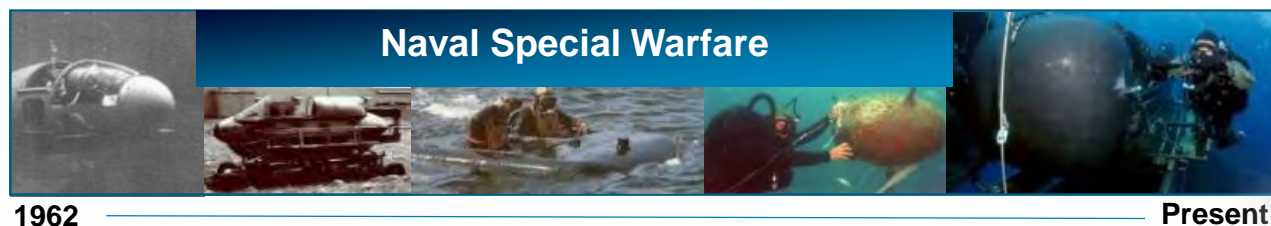
Ensuring Warfighting Dominance in the Littoral Battlespace

Mission

The mission of the Naval Surface Warfare Center Panama City Division is to conduct research, development, test and evaluation, and In-Service support of these areas:

End State

Rapidly deliver Littoral Warfare and Coastal Defense capability to the warfighter through technical rigor, accountable leadership, and stakeholder partnerships.



FY19-23 Strategic Campaign Plan





What Makes NSWC PCD Unique



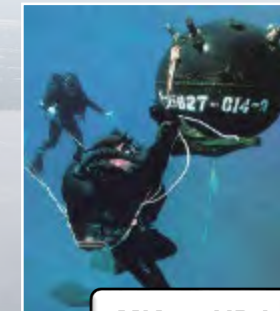
- Full Spectrum Mine Warfare to include Tactics
- Expeditionary Maneuver Warfare
- Ship to Shore Maneuver to include Air Cushion Vehicles
- Full Spectrum Diving and Life Support Systems
- Special Warfare Maritime Mobility
- Littoral Mission Systems Integration to include UxS
- Joint Gulf Test Range: open ocean, bays, estuaries, rivers, & harbors



Mine Warfare

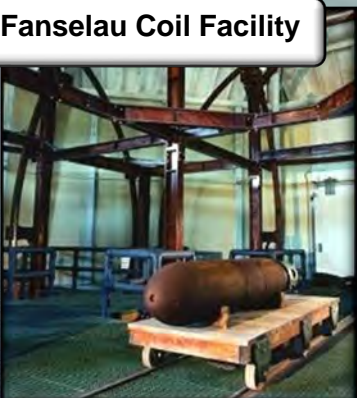


MK-18 Mod 2 UUV



MK-16 UBA

Fanselau Coil Facility



SEAL Delivery Vehicle



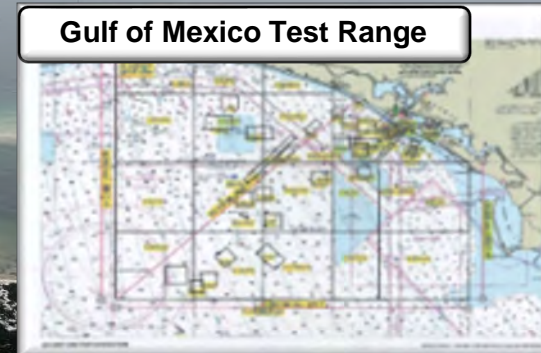
Sea Fighter (FSF-1)



Air Cushion Vehicle



Gulf of Mexico Test Range



970+ Scientists & Engineers

23 Active Duty Sailors



\$574M

FY22 Total Annual Funded Budget



PCD Relationships



The Impact

Strategic Goals

- Rapidly Deliver Solutions to Ensure Warfighter Dominance
- Be the Undisputed Technical Expert throughout the Littoral Battlespace
- Be Recognized as a Model Organization

Worldwide Reach

NSWC PCD directly supports Navy Fleets and warfighters throughout the world

Sponsor Summary

Percent of Total Funding:

- NAVY 91%
- USMC 3%
- USAF 2%
- DoD 2%
- ARMY 1%
- Non-DoD 1%

91%
Navy
Funding

Top 5 Sponsors



Diverse Customer Base

Work spans from basic research to in-service engineering (ISEA)

Areas of Excellence

- Mine Warfare
- Expeditionary & Amphibious Warfare
- Subsea & Seabed Warfare
- Unmanned Systems
- Diving & Life Support
- Naval Special Warfare
- Science & Technology
- Other Coastal Missions

FY21
Funded
Programs:

\$569M

FY21
Contracts
Issued:

\$212.1M

Innovation Ecosystem

Partners



Fleet



Other Gov



Industry

7 Active Cooperative Research and Development Agreements (CRADAs)

NavalX Gulf Coast Tech Bridge



Academia

13 Active Educational Partnership Agreements (EPAs)

STEM Outreach



Regional Partners



About Our Employees: *Alumni*



TOP FIVE Schools Represented

1. Florida State University
2. University of Florida
3. Auburn University
4. University of West Florida
5. University of Central Florida

We celebrate that our **diverse workforce** comes from all over the nation, with a wide variety of backgrounds and **education**.
#NSWCPCD

72
Ph.Ds

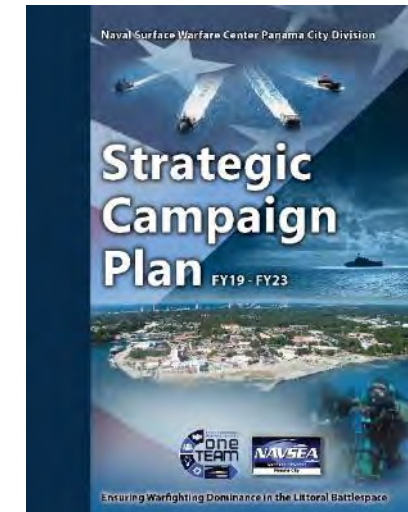
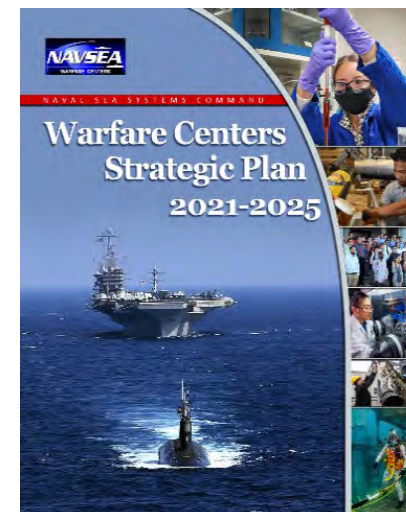
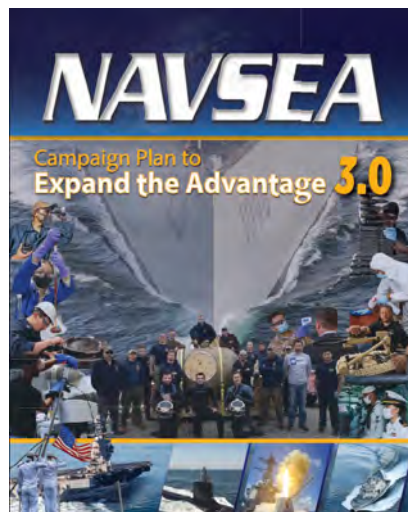
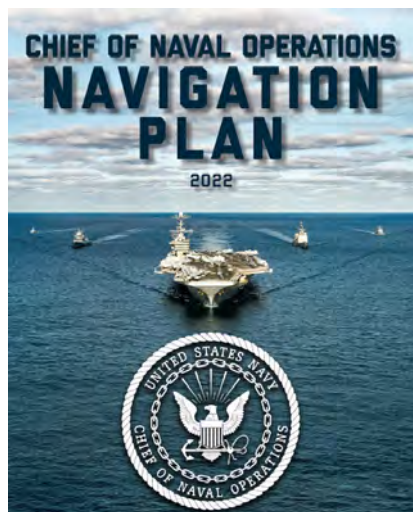
1,600+ Civilians

400+
Master's
degrees

47
U.S. states
represented



Strategic Campaign Plan Alignment



NDS STRATEGIC APPROACH

- Defending the homeland, paced to the growing multi-domain threat posed by the PRC
- Deterring strategic attacks against the U.S., her Allies, and partners
- Deterring aggression, while being prepared to prevail in conflict when necessary, prioritizing the PRC challenge in the Indo-Pacific, then the Russia challenge in Europe
- Building a resilient Joint Force and defense ecosystem

FOUR PRIORITIES

- **Sailors:** Recruit and Retain Technically Skilled Naval Warriors
- **Readiness:** Deliver a Force to Fight and Win
- **Capabilities:** Deliver a Lethal, Modernized Full Spectrum Fleet
- **Capacity:** Deliver a Combat-Credible Hybrid Fleet Continuum

EXPAND THE ADVANTAGE 3.0

- **Deliver Combat Power:** On-Time Delivery Of Combat-Ready Ships, Submarines and Systems
- **Transform Digital Capability**
- **Build a Team to Compete and Win**

ENABLING MARITIME SUPERIORITY

- **Workforce and Leadership Development**
- **Mission-aligned strategies at the Division Level**
- **Technical Innovation and Excellence**
- **Business Excellence and Improvement**
- **Right Culture/Values**

ENSURING WARFIGHTING DOMINANCE IN THE LITTORAL BATTLESPACE

- **Rapidly Deliver Solutions to Ensure Warfighting Dominance**
- **Be the Undisputed Technical Expert Throughout the Littoral Battlespace**
- **Be Recognized as a Model Organization**

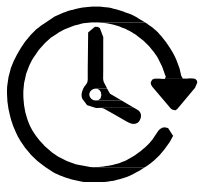
One Team: Expanding the Advantage through Collaboration



NSWC PCD Strategic Campaign Plan



Ensuring Warfighting Dominance in the Littoral Battlespace



Rapidly Deliver Solutions to Ensure Warfighting Dominance

Decrease Time to Deliver Products/Services

- Accelerate Acquisition
- Employ Digital Engineering
- Create a Culture of Responsible Risk Taking
- Mainstream High Velocity Learning throughout the Division

Increase Agility to Meet Emerging Needs

- Accelerate S&T (incubation to transition)
- Strengthen External Partnerships
- Cultivate a Culture of Innovation and Experimentation

Expand Naval Superiority

- Enhance Warfighting Familiarity among the Workforce
- Strengthen Relationships with the Warfighter



Be the Undisputed Technical Expert throughout the Littoral Battlespace

Establish a Deep Technical Bench

- Shape the Workforce for the Future
- Optimize and Balance Technical Support across the Organization

Shape Future Littoral Battlespace Operations

- Drive Littoral Battlespace Mission Area Analysis
- Shape the Long Term Vision for the Littoral Battlespace
- Develop Credible Technical Solutions for the Littoral Battlespace

Be Recognized Internationally as the Technical Leader

- Expand Recognition as the Technical Leaders in the Littoral Battlespace
- Strengthen and Expand Influence across the Naval Research and Development Enterprise and Fleet



Be Recognized as a Model Organization

Be the Employer of Choice

- Recruit, Develop, and Retain Talented Personnel
- Equip our Workforce with World Class Facilities and Tools
- Ensure a Culture of Inclusion and Engagement Exists in all Parts of our Organization
- Expand Networking and Interaction Across the Command
- Deliver Business Solutions that Meet our Employees Needs

Be the Partner of Choice

- Establish Enduring Reputation for Ground Truth, Technical Assertiveness, and Quality
- Enable a Culture of Affordability and Demonstrate Value to our Customers
- Strengthen Relationships and Stakeholders

Be the Collaborator of Choice

- Foster a Culture of Collaboration Both Internally and Externally
- Grow and Sustain our Network of Collaborators

FY24 Division Technology Focus Areas



Developing and fielding unmanned systems and associated technologies to reduce operational timelines and remove humans from hazardous environments; and advance autonomous and human behaviors to optimize mission planning, training, system command and control, and mission execution of littoral systems.

Unmanned Systems & Autonomy

Developing and analyzing automated machine technology and applications that can take the place of humans, or result in more efficient operations, in dangerous Naval and maritime environments and develop technologies related to human-machine teaming to enhance warfighter performance.

Robotics & Human Machine Interface

Researching ocean phenomena and biological behaviors to enable novel solutions for undersea sensing, communications and control.

Ocean Sciences & Sensing

Applying a multi-tiered, multi-disciplinary approach to M&S (including Live Virtual Constructive (LVC)) to the assessment of new technology developments that optimize system performance; and to incorporate the demands of big data analytics into M&S as a precursor to future dynamic data-driven systems.

Modeling & Simulation, Big Data Analytics

Exploring advanced material and design solutions unique to the marine environment, including additive and novel manufacturing techniques to improve material capabilities.

Advanced Materials

Developing fully networked command, control, communication, and computer (C4) technologies capable of acquiring, processing and disseminating information across force elements, in real-time; providing intelligence, surveillance, reconnaissance, and targeting (ISRT) to support operations in contested environments.

Integrated Networks

Advancing techniques for analysis and assessment of littoral systems.

Mission & System Analysis

Acoustics, Signals & Signal Processing

Exploring novel acoustic sensing concepts and signal processing techniques for unmanned platforms to expand our advantage in the littorals.

Artificial Intelligence & Machine Learning

Developing and applying AI/ML techniques to problems in the littorals in order to provide warfighting decision aids and optimized autonomous mission planning and execution.

Integrated Sensing & Quantum Technology

Developing wideband sensors to enable operation in contested environments that require seamless functionality across multiple sensing modalities to include intersection with leap-ahead capabilities afforded by quantum sensors, quantum computing, and quantum communications.

Biotechnology

Developing technologies that utilizes biological systems, living organisms or biological behaviors to address problems in the marine environment.

Cybersecurity

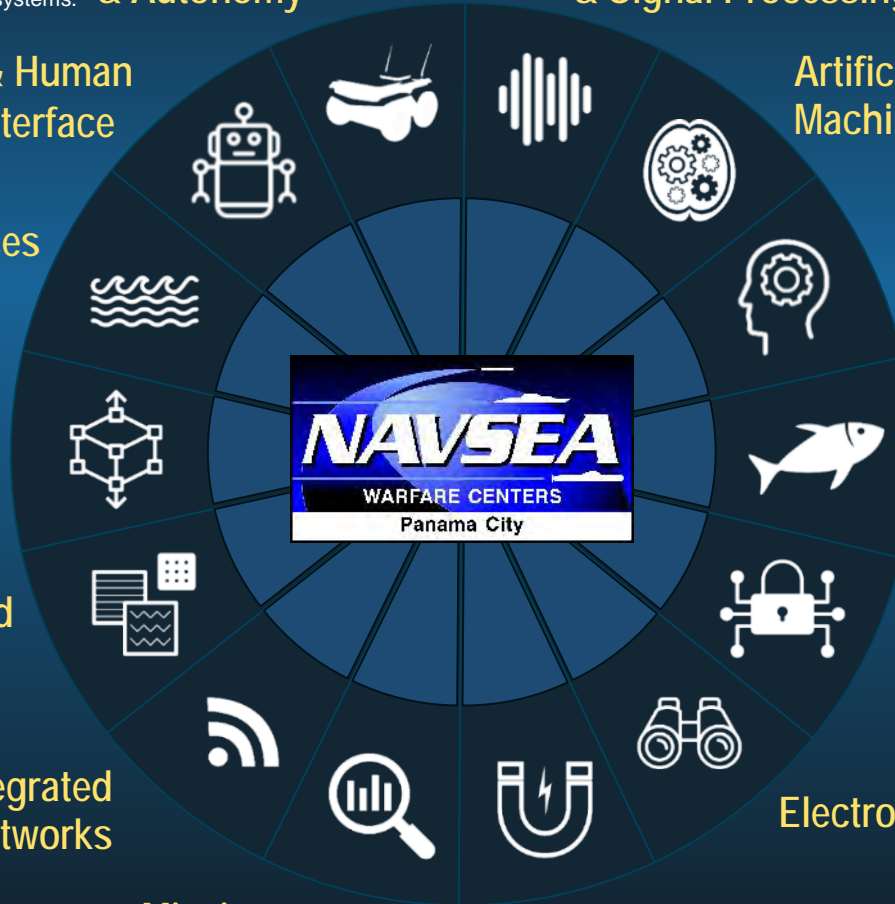
Pursuing R&D efforts that influence cyber resilience at all phases of systems life cycle engineering including design, construction, deployment and execution.

Electro-Optics

Exploring specialized electro-optical (EO) sensors to support detection, classification and identification (DCI) of threats and other targets at actionable distances within a broad range of operating environments.

Electromagnetics

Exploring the full electromagnetic spectrum to develop advanced imaging and electronic warfare capabilities.



Business Departments

Code 01

Comptroller

Responsible for all financial management functions:

- Fiscal policy & regulations
- Budget
- Accounting
- Financial services

Provide command management with technical advice and guidance in:

- Budget formulation & execution
- Managerial accounting
- Financial review & management analysis
- Program analysis
- Internal control systems
- Integrated financial systems

The Comptroller:

- Reports directly to Commanding Officer
- Serves as the Chief Financial Advisor to the Division
- Is delegated fiduciary authority under Title 31 USC 1517

Code 02

Contracts

Responsible for the end-to-end management and execution of the procurement process

1. Solicitation
2. Proposal
3. Evaluation
4. Award through contract closeout

Manages and directs the procurement functions, which support the Warfare Center's technical programs and missions.

Organized around three Contract Divisions and an Engineering Liaison Office:

1. Littoral and Mine Systems Contracts Division
2. Expeditionary and Maritime Systems Contracts Division
3. Small Purchase Division

Code 10

Corporate Operations

Manages and direct business functions that support the Warfare Center's technical programs and missions.



10E

EEO, Diversity & Inclusion



101

Human Resources Management



102

Infrastructure



103

Public & Congressional Affairs



104

Information Technology



105

Security



106

Corporate Business Office



107

Property Management

Littoral and Mine Warfare - A Department



- NAVSEA Mine Warfare Technical Warrant Holder
- Birthplace of Airborne Mine Countermeasures
- Force Behind Mine Warfare Fleet
- Mine Countermeasures & Mine In-Service Engineering

- Research & Technology Development for Future Capabilities
- MIW Analysis, Tactics, and Simulation
- NAVSEA Warfare Center for all Maritime Mining

- Mines In-Service Engineering
- Mine Improvements Program Support
- Rapid Repurposing of Legacy
- Systems for Urgent Capabilities

Mining



Quickstrike MK62/63/65



Quickstrike MK62s



Quickstrike Mod X JDAM
Extended Range



Advanced Undersea
Weapons System (AUWS)



Submarine Launched Mobile
Mine (SLMM) MK67



SLMM MK67



Clandestine Delivered
Mine MK67 Mod X

MCM Mission Packages



COBRA



AN/AQS-20



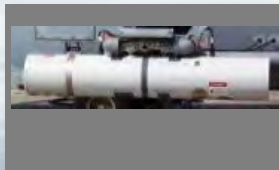
USV UISS



AN/AQS-24



AN/ASQ-235, AMNS



AN/AES-1, ALMDS



Knifefish

Airborne Mine Countermeasures



Surface Mine Countermeasures



MHU 1-4
Unmanned
Surface Mine
Hunting
Vehicle



AN/SQQ-32
Minehunting
Sonar



SEAFOX
Underwater
Unmanned
Vehicle



Expeditionary and Maritime Systems – E Department

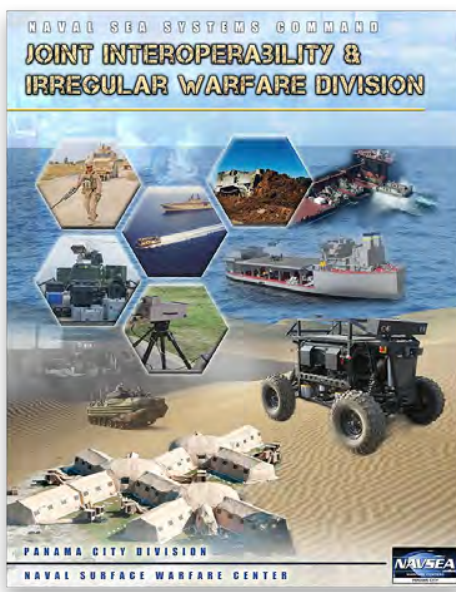


E10



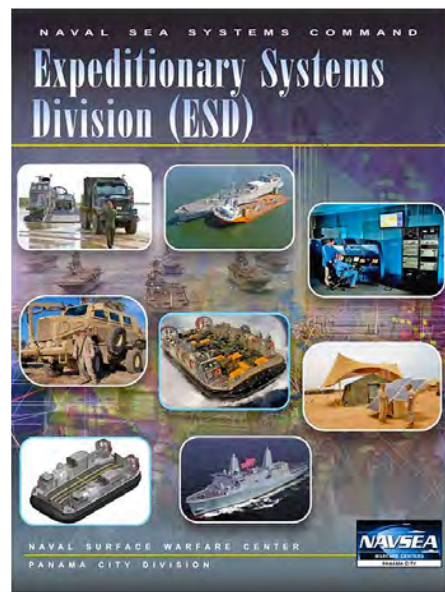
- NSW Undersea Mobility (SEAL Delivery Vehicle [SDV], Dry Combat Submersible [DCS])
- Mk 18 UUV Family of Systems
- Diving and Life Support Systems
- Damage Control Personal Protective Equipment (DC PPE)
- Chemical Biological Defense (CBD) & Ballistic Personal Protections
- Gas Analysis for Deep Submergence Systems

E20



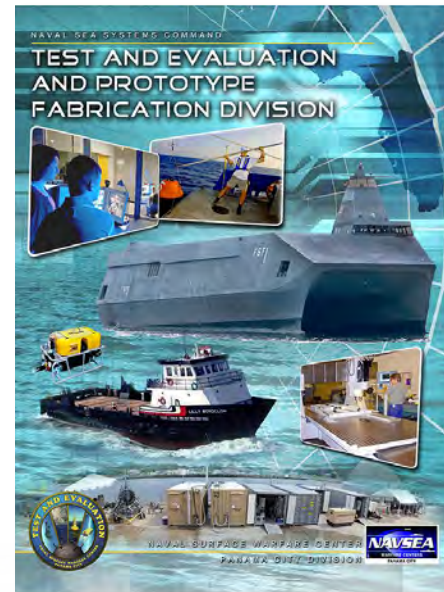
- Joint and Navy Expeditionary C4I
- Network architecture, engineering & integration
- Cybersecurity
- In-service engineering
- Over-the-Horizon Operational Maneuver from the Sea
- Navy Non-Lethal Effects
- Counter Unmanned Aerial Vehicle detect/track technology
- Persistent Awareness Systems

E30



- Air Cushion Vehicle Systems
- Expeditionary Platform C4N
- Expeditionary Maneuver Warfare
- Amphibious Ship Interfaces, Integration, and Engineering
- Seabasing/Expeditionary Advanced Base Operations
- USMC Vehicle Support
- Mobility/Counter-mobility systems
- Explosives Hazard Defeat
- Marine Corps Shipboard and Seabase Interfaces

E40



- Test & Evaluation
- Ranges & Facilities
- Oceanographic Support Office (OSO)
- Coastal Test Range (CTR)
- Boat House
- R/V Sea Fighter (FSF-1)
- Fabrication and Prototype Shops
- Non-Magnetic Testing Area (NMTA) & Ordnance Ranges
- Unmanned Aerial System (UAS) Program

E50

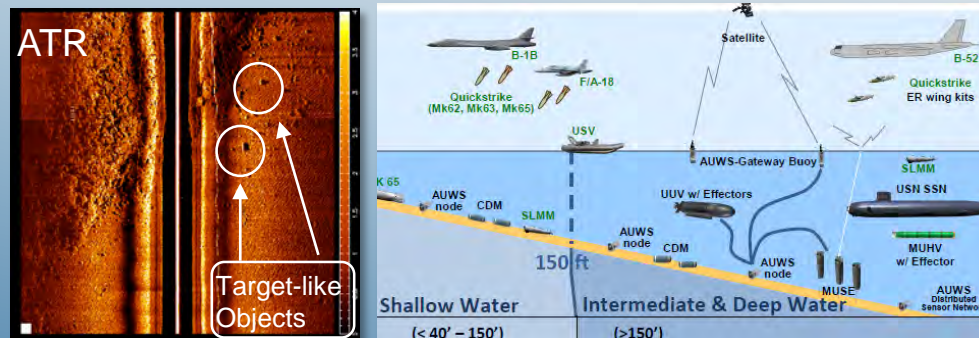


- Cradle-to-Grave Logistics Planning and Management
- Configuration Management
- Provisioning
- PSD Planning
- Reliability-Centered Maintenance
- Technical Manual Development (S1000D Expertise)
- Training & Curriculum Development

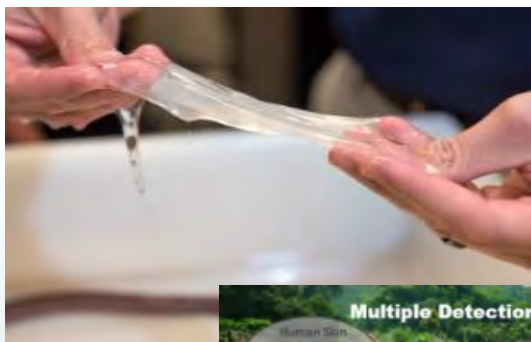
Science and Technology – X Department

- Unmanned Systems, Autonomy & Dynamics
- Magnetics, Optics & Data Fusion
- Marine Corps S&T
- Advanced Mining Technologies
- Physical Acoustics, Sensors & Processing
- Biotechnology
- Automatic Target Recognition (ATR)

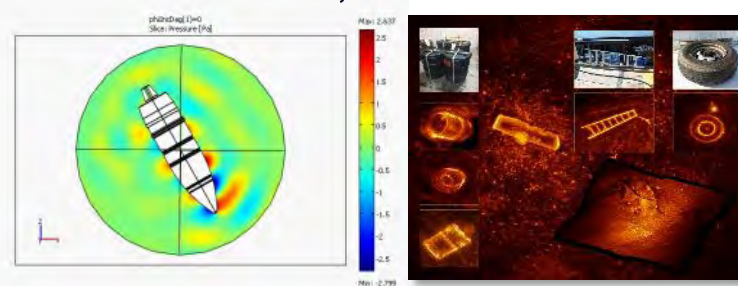
ADVANCED MINING TECHNOLOGIES



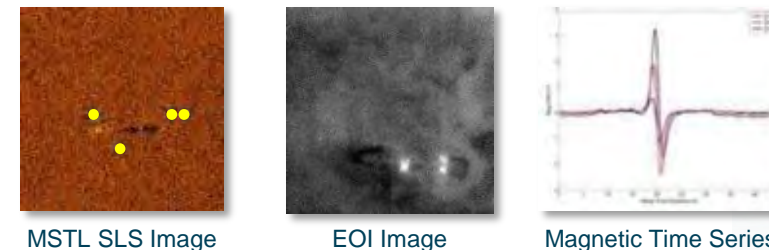
BIOTECHNOLOGY



PHYSICAL ACOUSTICS, SENSORS & PROCESSING



MAGNETIC / ACOUSTIC / EO DATA PRODUCTS

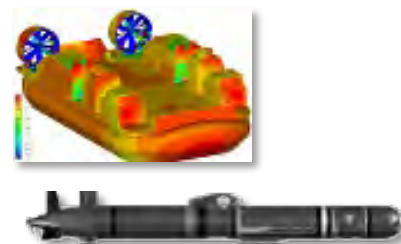


Magnetic contact position displayed by a yellow circle overlaid on SSS images



MARINE CORPS S&T

UNMANNED SYSTEMS, AUTONOMY & DYNAMICS



Questions?

*Ensuring Warfighting
Dominance in the
Littoral Battlespace*

