



Science and Technology Priorities for COMSUBPAC

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Overview

- Background on COMSUBPAC
- COMSUBPAC S&T priorities
- Current S&T efforts
- Future S&T efforts



Background on COMSUBPAC



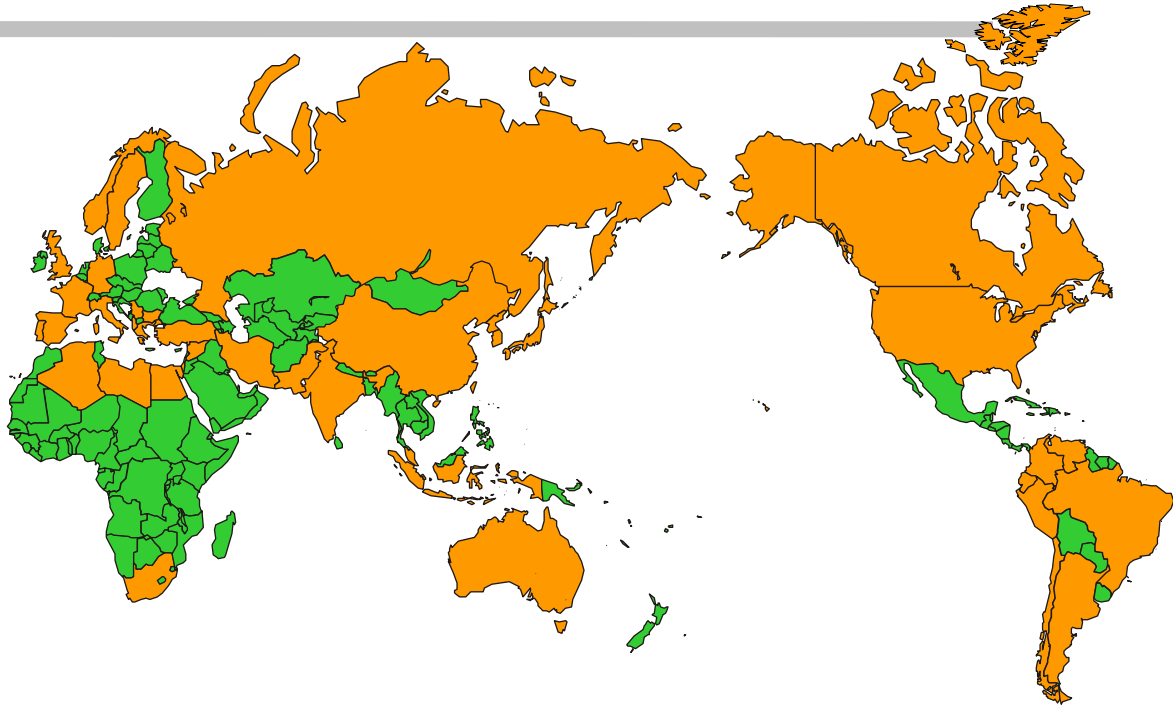
• *More than half the submarines in the fleet (8 squadrons, 40 boats)*

- *Forward in sensitive areas and usually independent operations*
- *Always covert unless we choose otherwise*



Today's Global Challenges

- **China**
 - Growing regional ambitions
 - Resolution of Taiwan issue
 - Military modernization
- **North Korea**
 - Nuclear weapons development
 - Regime stability
- **Iran**
 - Nuclear program
- **GWOT**
- **Piracy**
 - Asia and Africa
- **War on Drugs**
- **Growing number of modern submarines**
 - 40 Countries with over 400 Submarines



■ Countries with Submarines



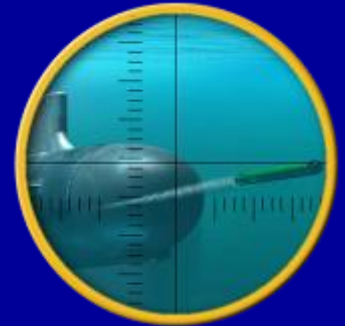
Strike



Strategic Deterrence



ASW



SOF



**Submarine Force
Missions**

ISR



ASUW



Counter Drug Ops



Mine Warfare





COMSUBPAC Priorities for Technology Development

- Submarine self-defense against hostile air
- Sub-controlled ISR
- Towed array reliability improvement
- Heavyweight torpedo improvements
- Digital imagery (photonics mast)
- Advanced sensors for navigation,
- Unmanned Undersea Vehicles (autonomous)
- IUSS (SOSUS, SURTASS) extension



Current S&T Efforts of Interest

- FY10 successes
 - UAV experimentation for ISR
 - Advanced sonar sensor integration
- FY11/12 Future Naval Capabilities (FNC) starts
 - Sonar automation
 - Hybrid Material Rotor
 - Anti Corrosion
 - Electric vs. hydraulic actuators
 - Sprayable Acoustic Dampening
 - Sub Survivable EW
 - Common Torpedo Fuzing



Future S&T Efforts

- FY13 Recommended FNCs
 - Improved Towed Array
 - Advanced Torpedo sensor integration
 - Safe energy storage for UUV/UAV
 - Data communications at depth
- ONR R&D work
 - Deep ocean sensing
 - Large UUV



Summary

- COMSUBPAC is operationally focused
- S&T efforts with direct relevance to supporting submarine operations are of interest to CSP
 - Other S&T may be interesting in a general sense, but for someone else to support
 - Look for opportunity to leverage other R&D rather than duplicate it



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SUBMARINE FORCE U.S. PACIFIC FLEET

Questions



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