

Coast Guard Opens Forward Operating Location Kotzebue for Arctic Shield 2018

JUNEAU, Alaska – The Coast Guard opened forward operating location (FOL) Kotzebue, Alaska, in support of Arctic Shield 2018 operations throughout the Arctic region July 1, the Coast Guard 17th District said in a release.

As part of operation Arctic Shield 2018, Coast Guard Air Station Kodiak deployed two MH-60 Jayhawk helicopters and crews to Kotzebue to give the Coast Guard an opportunity to leverage existing infrastructure and strategically position its crews to effectively respond to maritime emergencies in the Bering Strait and the Northern Slope.

In addition to FOL Kotzebue, the Coast Guard will have cutters Healy, Stratton and Douglas Munro engage in operations encompassing a variety of missions from Dutch Harbor through the Bering Strait and along the North Slope including the Northern Alaska Outer Continental Shelf.

Operation Arctic Guardian is also a part of Arctic Shield, and it is an exercise that will conduct outreach with community responders in the Arctic by teaching basic oil spill response tactics and sub-area planning. Several Coast Guard personnel and the Alaska Department of Environmental Conservation will conduct Operation Arctic Guardian in Bethel.

“The Forward Operating Location in Kotzebue helps mitigate several of the major challenges when operating in the Arctic including the environment, vast distances and limited infrastructure,” said Rear Adm. Matthew Bell, commander, Coast Guard 17th District. “Arctic Shield 2018 operations and activities will include performing multiple missions, leveraging partnerships and increasing maritime domain

awareness to reduce risk and promote safe, secure and environmentally responsible maritime activity. “

Arctic Shield operations began in 2009 to support Coast Guard missions in response to increased maritime activity in the Arctic. Arctic Shield operations and activities include focusing on promoting national interests and sovereignty throughout the Arctic. Arctic Shield 2018 operations and activities will include performing multiple missions, leveraging partnerships and increasing maritime domain awareness to reduce risk and promote safe, secure and environmentally responsible maritime activity.

Arctic Shield 2018 focuses on understanding and responding to the risks to the sea, risks to those on the sea, and risks from those who might use the sea to do us harm. Increasing maritime domain awareness, building and strengthening partnerships with both national and international Arctic stakeholders, and having an active presence in the region will enhance the safety, security and stewardship of the nation’s Arctic waters.

Boeing to Build 28 Super Hornets for Kuwait

ARLINGTON, Va. – The Navy has awarded to Boeing \$1.5 billion for 28 F/A-18E/F Super Hornet strike fighters for the Kuwaiti Air Force.

According to a June 27 Defense Department contract announcement, Boeing will build 22 single-seat F/A-18E and six two-seat F/A-18F versions for Kuwait.

The sale of the Super Hornets was approved by the U.S. Department of State in February.

Deliveries of the strike fighters to Kuwait is expected by January 2021.

Kuwait's air force previously ordered 32 older F/A-18C and eight F/A-18D Hornets during the 1980s. It will be the second foreign nation to order the Super Hornet, Australia being the first.

MDA Director: Ship-based Missile Defense More Capable, Flexible than Land-based Options

WASHINGTON – The director of the Missile Defense Agency (MDA) accepted the declaration by Chief of Naval Operations (CNO) Adm. John M. Richardson that he wants to get his Aegis-equipped warships out of the missile defense patrol missions, but noted that the Navy ships provide better capabilities than available land-based alternatives.

Air Force Lt. Gen. Samuel A. Greaves, the MDA director, said June 26 that he understood the concern over the limited number of the multimission ships and “the strain on the crews and equipment” of keeping the multimission-capable destroyers and cruisers deployed on the ballistic missile defense (BMD) missions.

Greaves was asked at a Mitchell Institution breakfast session

about Richardson's June 12 complaint that he had six multimission ships that could go anywhere quickly to address security threats but were tied up "in a tiny little box, defending land." The CNO said those ships could be used in emergencies, but "I want to get out of the long-term missile defense business."

Richardson said the BMD mission could be taken over by land-based systems.

Greaves noted that "the CNO did verify that he is supportive of the Aegis BMD mission."

"The existing ground facilities is Aegis Ashore," Greaves said, and there is a "question if you could deploy additional capabilities. THAAD also could do some of that," he said, referring to the Army-operated Terminal High Altitude Area Defense antimissile system.

"But the Aegis weapon system has more capability" and can reach higher altitude targets, Greaves added. He also noted the "flexibility of the (Navy) platform to respond to the threat."

"But, if the nation decides that we need to balance out, or increase the number of land-based capabilities," Greaves said that with "the demonstrated ability we have, we can do it with Aegis Ashore."

The first Aegis Ashore site in Romania was declared operational in May 2016 with a Spy-1D radar and 24 Mk 41 vertical launch systems holding Standard Missile-3 (SM-3) missiles. But the planned second site in Poland that was expected to be operational by early 2019 has run into major problems with site construction. Greaves estimated it would take another 18 months to complete.

In his address, Greaves cited his priorities of increasing the reliability of the existing BMD capabilities, increasing the

engagement capabilities and keeping pace with the rapidly improve threats.

“The times for delays and studies are over,” he said.

A top priority in keeping up with the emerging threats, Greaves said, was fielding a capability against hypersonic weapons. That threat is real, based on what has been seen in actions by others, he said, apparently referring to China and Russia, which have claimed to have demonstrated ultra-high-speed weapons.

Among MDA’s planned projects, Greaves listed an upcoming retest of the SM-3IIA missile, which failed an intercept trial last year. He said officials have isolated the problem to a part that worked nine out of the 10 previous tests and were working to ensure it will work in the future.

Virginia-Class Submarine Indiana is Delivered to U.S. Navy

NEWPORT NEWS, Va. – Huntington Ingalls Industries’ Newport News Shipbuilding division delivered the newest nuclear-powered fast-attack submarine to the U.S. Navy, the company said in a June 25 release.

The future USS Indiana (SSN 789) is the 16th Virginia-class submarine built as part of the teaming agreement with General Dynamics Electric Boat and the eighth delivered by Newport News.

“We are proud to deliver Indiana to the Navy,” said Dave

Bolcar, Newport News' vice president of submarine construction. "For the nearly 4,000 shipbuilders who participated in construction of the boat, there is nothing more important than knowing that this vessel will support the Navy's missions."

Indiana, which began construction in September 2012, successfully completed sea trials earlier this month. The vessel will be commissioned later this year.

Virginia-class submarines are built for a broad spectrum of open-ocean and littoral missions to replace the Navy's Los Angeles-class submarines as they are retired. Virginia-class submarines incorporate dozens of new technologies and innovations that increase firepower, maneuverability and stealth and significantly enhance their warfighting capabilities. These submarines are capable of supporting multiple mission areas and can operate at submerged speeds of more than 25 knots for months at a time.

Navy Developing Ship Coatings to Reduce Fuel, Energy Costs

ARLINGTON, Va. – It can repel water, oil, alcohol and even peanut butter. And it might save the U.S. Navy millions of dollars in ship fuel costs, reduce the amount of energy that vessels consume and improve operational efficiency.

The Office of Naval Research (ONR) is sponsoring work by Dr. Anish Tuteja, an associate professor of materials science and engineering at the University of Michigan, to develop a new type of "omniphobic" coating. This chemical coating is clear, durable, can be applied to numerous surfaces and sheds just

about any liquid.

Of particular interest to the Navy is how omniphobic coatings can reduce friction drag – resistance created by the movement of a hull through water – on ships, submarines and unmanned underwater vessels.

Compare friction drag to jogging through a swimming pool. Because of the water's resistance, each stride is more difficult and requires more energy and effort.

“A significant percentage of a ship's fuel consumption [up to 80 percent at lower speeds and 40 to 50 percent at higher speeds] goes toward maintaining its speed and overcoming friction drag,” said Dr. Ki-Han Kim, a program officer in ONR's Sea Warfare and Weapons Department. “If we could find a way to drastically reduce friction drag, vessels would consume less fuel or battery power, and enjoy a greater range of operations.”

Tuteja's omniphobic coating could be a solution. Picture two ships sailing at the same speed – one dealing with friction drag and the other covered in a coating that causes water to bead up and slide off the hull easily. The coated vessel theoretically would guzzle less fuel because it doesn't have to fight as much water resistance while maintaining speed.

While repellent coatings aren't new, it's hard to create one that resists most liquids and is tough enough to stick to various surfaces for long periods of time. Take a Teflon-coated pan, for example. Water will bead up and roll off the pan, while cooking oil will spread everywhere.

“Researchers may take a very durable polymer matrix and a very repellent filler and mix them,” said Tuteja. “But this doesn't necessarily yield a durable, repellent coating. Different polymers and fillers have different miscibilities [the ability of two substances to mix together]. Simply combining the most durable individual constituents doesn't yield the most durable

composite coating.”

To engineer their innovative coating, Tuteja and his research team studied vast computer databases of known chemical substances. They then entered complex mathematical equations, based on each substance’s molecular properties, to predict how any two would behave when blended. After analyzing hundreds of combinations, researchers found the right mix.

The molecular marriage was a hit during laboratory tests. The rubber-like combo can be sprayed, brushed, dipped or spin-coated onto numerous surfaces, and it binds tightly. The coating also can withstand scratching, denting and other hazards of daily use. And the way the molecules separate makes the coating optically clear.

Besides reducing friction drag, Tuteja envisions other Navy uses for the omniphobic coating – including protecting high-value equipment like sensors, radars and antennas from weather.

In addition to omniphobic coatings to lessen friction drag, ONR is sponsoring other types of coating research to prevent corrosion on both ships and aircraft and fight biofouling (the buildup of barnacles on hulls). Similar coatings can also prevent ice from forming on ships operating in cold regions, or make ice removal much easier than conventional methods like scraping.

Tuteja’s team is conducting further tests on the omniphobic coating, but they plan to have it ready for small-scale military and civilian use within the next couple of years.

Coast Guard Cutter Campbell Returns with \$209 Million Cocaine Seizure

BOSTON – The Coast Guard Cutter Campbell returned to its homeport in Kittery, Maine, June 15 after an 80-day counternarcotic patrol in the Caribbean Sea and Eastern Pacific Ocean, the Coast Guard 1st District said in a release.

Campbell's crew disrupted six narcotic smuggling ventures, seized about 12,000 pounds of cocaine worth \$209 million and detained 24 suspected smugglers.

Equipped with an MH-65 Dolphin helicopter crew deployed from the Helicopter Interdiction Tactical Squadron unit based in Jacksonville, Florida, Campbell patrolled known narcotic transit zones in the Eastern Pacific Ocean off the coast of Central and South America in support of Joint Interagency Task Force-South, which facilitates international and interagency interdiction to enable the disruption and dismantlement of illicit and converging threat networks in support of national and hemispheric security.

Campbell's crew also rescued three sea turtles found entangled in loose fishing gear.

"During this challenging deployment, the crew excelled in all assigned missions and should be exceptionally proud of their accomplishments," said Cmdr. Mark McDonnell, Campbell's commanding officer. "Our efforts to integrate with partner agencies and nations are key to the safe and successful execution of these complex interdiction operations as we work together to remove cocaine bound for the United States and help dismantle criminal networks."

Campbell is a 29-year-old Famous-class medium-endurance

cutter, with a crew complement of 100.

Commander Nominated for Resurrected U.S. Second Fleet

ARLINGTON, Va. – President Donald J Trump has nominated Vice Adm.

Andrew L. Lewis to command the new U.S. Second Fleet, to be headquartered in Norfolk, Virginia.

Lewis, a naval aviator, has served as deputy chief of naval operations for Operations, Plans and Strategy since August. He began

his career as an A-7 attack pilot and later made the transition to the

F/A-18. He has flown 100 combat missions during numerous operations in

Southwest Asia since 1991. He was the recipient of the Naval Air Forces

Pacific Pilot of the Year award in 1996.

His command tours include Carrier Strike Group 12, deploying with

USS Theodore Roosevelt; Naval Strike and Air Warfare Center; Carrier

Air Wing 3, deploying with USS Harry S. Truman; Strike Fighter Squadron

(VFA) 106; and VFA-15, deploying on USS Enterprise and USS Theodore

Roosevelt.

The chief of naval operations, Adm. John Richardson, announced the

establishment of the fleet during a change of command ceremony for U.S.

Fleet Forces Command (USFF) in Norfolk, May 4, the Navy said in a release. The new fleet will report to USFF.

“Second Fleet will exercise operational and administrative authorities over assigned ships, aircraft and landing forces on the East Coast and northern Atlantic Ocean,” the release said. “Additionally, it will plan and conduct maritime, joint and combined operations and will train, certify and provide maritime forces to respond to global contingencies.

In its former iteration, Second Fleet generated forces to support operations in the North Atlantic, as well as U.S. Sixth Fleet in the Mediterranean Sea, the Middle East Force (later U.S. Fifth Fleet) in the Persian Gulf and, occasionally, U.S. Seventh Fleet during the Vietnam War. The fleet figured prominently in the Navy’s Maritime Strategy of the Cold War Era, when the Second Fleet staff would embark in a flagship for exercises in the North Atlantic and Norwegian Sea as a bulwark against the Soviet Union. The former Second Fleet was disestablished in 2011.

As noted by U.S. European Command, the Russian Navy has become more active in recent years in the Northern Atlantic and the Mediterranean Sea. U.S. Sixth Fleet in recent years has operated more

frequently in
the Baltic and Black Seas.

Marines Stage on Expeditionary Mobile Base Ship USS Puller for Real-World Operation

ARLINGTON, Va. – A Marine Air-Ground Task Force-Crisis Response (MAGTF-CR) has used a Navy expeditionary mobile base ship (ESB) for a quick-reaction movement in the Persian Gulf, the task force commander said.

Speaking June 8 to the Potomac Institute, Col. Christopher Gideons, commander of SPMAGTF-CR-Central Command from August 2017 to April, said that elements of the task force were called upon to stage to the United Arab Emirates in preparation for a maritime intercept operation (MIO) in the region.

After arrival, the task elements staged to the USS Lewis B. Puller, a newly commissioned ESB assigned to the U.S. Fifth Fleet that supports a variety of forces including mine countermeasures forces, special operations forces, patrol boats and other units.

Gideons said MV-22B Osprey tiltrotor transport aircraft were staged to the flight deck of Puller along with an infantry contingent of about 200 Marines. The MIO of an unspecified nature was planned and rehearsed, he said, but ultimately the force was told to stand down when the MIO was canceled by

higher authority.

“The team did a great job,” Gideons said.

He praised the capabilities of the ESB, with its large flight deck, spacious hangar deck and rotorcraft refueling capability.

One challenge of the operation was getting needed gear on the ship and sustaining the force, he noted.

The use of an alternate platform – the ESB – in this case was necessitated by the lack of an amphibious ready group (ARG) with an embarked Marine Expeditionary Unit (MEU), as pointed out during the presentation by retired Marine Corps Commandant Gen. Alfred M. Gray Jr., who also highlighted the shortage of amphibious warfare ships that necessitates the existence of SPMAGTFs.

There was a 100-day gap in the presence of an ARG/MEU when Gideons’ SPMAGTF was in theater, Gideons said.

The SPMAGTF also operated from the French Navy helicopter carrier FS Tonnere during the deployment.

The SPMAGTFs were created in 2014 in response to the 2012 attack on the U.S. government facilities in Benghazi, Libya, in which four Americans were killed in a siege with no ARG/MEU available in the Mediterranean Sea to rescue them.

Wave Gliders Selected to

Study Arctic and Southern Oceans

SUNNYVALE, Calif. – Oceanographers from Scripps Institution of Oceanography (Scripps) and the Applied Physics Laboratory of the University of Washington (APL-UW) have selected Wave Glider long-duration ocean robots as their sensor platform to conduct advanced scientific research in the most inhospitable and remote regions of the Arctic and Southern oceans, according to a June 5 release from Liquid Robotics, a Boeing company.

Using Liquid Robotics Wave Gliders, proven in extreme ocean conditions (sea state 6-plus), scientists will obtain real time data and rare insights into the dynamic conditions that drive the world's weather and climate. This data is critical for scientists to understand and improve global ocean weather modeling and climate prediction.

The oceanographers leading these important missions are:

- Dr. Eric Terrill and Dr. Sophia Merrifield, Coastal Observing Research and Development Center, Scripps.
- Dr. Ken Melville and his team at the Air-Sea Interaction Laboratory, Scripps.
- Dr. Jim Thomson and his team in the Stratified Ocean Dynamics of the Arctic program at the APL-UW.

Each team will integrate sophisticated oceanographic and atmospheric sensors onto the Wave Gliders to measure extreme wave states, winds, temperature and salinity in the upper layers of the ocean. Historically, these regions have been undersampled due to the dangers and risks of operating in these turbulent oceans. With the help of unmanned systems, the oceanographers will be able to observe the real time weather and climate conditions safely from shore.

“The reliability of the platform, modular payloads, and proven navigation capabilities led to our decision to select the Wave Glider for our upcoming science program,” said Terrill, director of the Coastal Observing R&D Center at Scripps. “Tackling at-sea science questions has plenty of challenges and we needed a platform we could trust and adapt. The modularity allows us to deploy our own sensors and adapt autonomy algorithms so that the vehicle will optimally sample the ocean.”

Working together with Liquid Robotics, these oceanographers have successfully conducted long-duration scientific missions in the Arctic, Pacific, Southern and the North Atlantic oceans. Exploring the vast, remote regions of our ocean, especially in the Arctic and Antarctica, is incredibly challenging. Deploying Wave Gliders in the most energetic sea conditions on Earth will help scientists gain a better understanding and modeling of our changing planet.

“In 2016, we successfully completed a three-month, 2,000-kilometer mission in the Southern Ocean where the Wave Glider performed through 6-meter-high waves, extreme winds and swam through the world’s largest ocean current, the Antarctic Circumpolar Current,” said Thomson, senior principal oceanographer at the APL-UW. “The data collected provided unprecedented temporal and spatial coverage and I have great confidence our upcoming Arctic mission in the Beaufort Sea, part of the Stratified Ocean Dynamics of the Arctic, will again provide valuable insights.”

Marine Corps to Award Orders for Cold Weather Boots and Socks

MARINE CORPS BASE QUANTICO, Va. – Marines will stay warm during ambient cold weather operations with new boots and socks. Marine Corps Systems Command (MCSC) intends to award sole source purchase orders for two types of Intense Cold Weather Boots (ICWBs) and Intense Cold Weather Socks (ICWSs) to improve Marines' performance in cold weather environments. A total of 2,000 boots and 50,000 pairs of socks will be delivered from four vendors by Sept. 28.

“Based on market research, industry days and events such as Modern Day Marine, we narrowed our decision for the orders down to two companies for cold weather boots and two for socks,” said Todd Towles, program analyst for the Clothing and Equipment Team at MCSC.

There are currently no Marine Corps issue boots designed for use in the -20 to 20 degrees Fahrenheit range. The Temperate Weather Marine Corps Combat Boot was designed for a temperature range between 20 to 60 degrees Fahrenheit, and the Extreme Cold Weather Vapor Barrier Boot was designed for a range between -65 to -20 degrees Fahrenheit.

This effort to acquire the cold weather boots and socks will help MCSC evaluate commercial, off-the-shelf solutions and offer the potential to reduce or eliminate the current environmental protection gap, said Towles. The socks will have much higher wool content than the polypropylene wool socks Marines currently use. Additionally, the Clothing and Equipment Team is hopeful the new gear will offer increased water repellency, comfort and insulation in extreme cold weather environments.

MCSC's Program Manager Infantry Combat Equipment will conduct a field user evaluation December through March. The team will gather input from Marines as they wear the ICWB and ICWS prototypes at the Mountain Warfare Training Center, Fort McCoy and Norway.

Feedback regarding fit, form and function will be collected along with how well both prototypes of the ICWB and ICWS perform in sub-zero temperatures.

"The Army is conducting evaluations with similar boots and socks, so there is potential to have some consistency with our results and products," said Lt. Col. Chris Madeline, program manager for ICE. "Marines will keep the prototype boots through the duration of testing. Once data is collected, it will inform future acquisition decisions and allow the Corps to purchase boots and socks that bridge the gap between the existing cold weather boots."

The Clothing and Equipment Team falls under Program Manager Infantry Combat Equipment at MCSC.