Q&A: Rear Admiral Ronald J. Piret, Commander, Naval Meteorology and Oceanography Command

Rear Adm. Ronald J. Piret. *U.S. NAVY*

Rear Adm. Ronald J. Piret is a native of Chico, California, and graduated in 1993 from the U.S. Naval Academy with a Bachelor of Science in Physical Oceanography. He holds master's degrees in oceanography and meteorology from the Naval Postgraduate School and national security and strategic

studies from the Naval War College, where he graduated with distinction.

Upon commissioning, Piret served in various operational positions, most notably aboard the Royal Navy's HMS Herald as the Operations Officer, and the USS Abraham Lincoln (CVN 72), where he served as the Meteorologist and Oceanographer during a deployment in the Western Pacific.

Ashore, he served as forecast duty officer at Naval European Meteorology and Oceanography Center, Rota, Spain; tactical hydrographic and meteorological officer at the Royal Navy School of Maritime Operations, HMS Dryad, Southwick, England; associate chairman of the Oceanography Department at the U.S. Naval Academy; deputy director of Operations for Expeditionary Warfare, Naval Oceanography Operations Command; executive officer, Naval Oceanography Operations Command; deputy assistant chief of staff for Requirements, Programs and Assessments, Commander, Naval Meteorology and Oceanography Command; Arctic affairs officer for the Oceanographer of the Navy onboard the Chief of Naval Operations Staff; fellow to the Naval Command College Class of 2017, Naval War College's Senior Officer International Program; executive officer, Naval Oceanographic Office; and chief of staff, Naval Meteorology and Oceanography Command.

Piret commanded the Provincial Reconstruction Team Uruzgan in southern Afghanistan working alongside multinational and interagency partners in support of Operation Enduring Freedom. Additionally, Piret commanded the Naval Oceanographic Office at Stennis Space Center, Mississippi overseeing the operation of the Navy's six T-AGS survey vessels.

Piret assumed command of Naval Meteorology and Oceanography Command and simultaneously became the Oceanographer of the Navy, Navigator of the Navy, and Hydrographer of the Navy in July of 2021.

Piret discussed the missions of Naval Meteorology and Oceanography Command with Senior Editor Richard R. Burgess. Excerpts follow.

With the change in fighting land wars in Southwest Asia to the competition with Russia and China, how does that shift affect focus of the Naval Meteorology and Oceanography Command?

PIRET: Naval Oceanography operates simultaneously at the strategic, operational and tactical levels of warfare in every theater around the globe. We pride ourselves in our ability to characterize the battle space and then predict changes in the environment over time. As part of information warfare, we can analyze where the potential hot spots will occur and position assets accordingly. Certainly, wherever the fleet goes, we go. But often have already been there. In terms of fleet operations, whether it be in the Western Pacific or in the North Atlantic, we're an integral part of every warfighting kill chain, whether it is the submarine force, the surface force, special warfare forces or the aviation force.

With current events, we do see some uptick in requests for operational support, and we are making sure that those carrier strike groups or those combatant commanders have the best understanding of the battlespace's environmental conditions so they can best posture or employ their assigned forces.

Are the Distributed Maritime Operations and Expeditionary Advanced Base Operations concepts changing the focus and missions of Commander, Naval Meteorology and Oceanography Command?

PIRET: We've been thinking about Distributed Maritime Operations for a while now and adjusting our own alignment to better deliver meteorological and oceanographic effects to the fleet. We recently invested in and realigned some of our Sailors to stand up two commands, Strike Group Oceanography Team Norfolk and San Diego. Those commands deploy Sailors

ready to meet DMO requirements.

With this realignment, Naval Oceanography is well positioned for distributed naval operations. Our teams of Sailors complete workups with carrier strike groups and amphibious ready groups, and they deploy with those forces. At the same time, we embed Mobile Environmental Teams on independent deployers to deliver specialized environmental information. Whether full SGOT teams onboard aircraft carriers or small teams onboard independent deployers, our Sailors serve as the onboard subject matter experts who work within the planning process and leverage our reach-back capability and the deep knowledge base we have at the Naval Oceanography Operations Command (Anti-Submarine Warfare Reach-back Cell and the Electromagnetic Maneuver Warfare Reach-back Cell). Naval Oceanography's Reach-back Cells enable the deployed teams to bring full weight at what naval oceanography to the fight.

CNMOC supports groups such as explosive ordnance disposal (EOD), mine countermeasures and special operations forces. What kind of support do you provide them?

PIRET: When it comes to the expeditionary warfare — whether that be mine-countermeasures, EOD or special operations — we're really talking about assured access and ability to maneuver ingress and egress. We have a deep understanding of the nature of those missions, and our Sailors and Officers are well-trained and deliver critical information to assure success. It's really important to those forces to understand the conditions in which they're operating. They also need to understand what changes will occur during their mission and how to egress safely.

We have a wide variety of deployable Sailors who work alongside the special warfare, EOD and the mine-countermeasures groups. We have Sailors who are specifically trained in those missions and have a deep understanding of those mission requirements. We also have reach-back capability

with our team in the Warfighting Support Center at Stennis Space Center where remote-sensing capabilities are leveraged with other partners within the information warfare community to highlight and mitigate challenges in various areas of operation.

It's not well known that we have the only operational geology lab in the Navy. We're experts in analyzing bottom sediment and how that sediment moves, which is critically important when it comes to understanding how a mine on the seafloor would be best detected if it's been buried.

Additionally, our Sailors are trained in the operational employment and piloting of unmanned underwater vehicles with side-scan sonar onboard, and able to map the ocean floor or in harbors as well and identify objects. Our Sailors can also access a robust historical database, and utilizing change detection algorithms, they can direct EOD units to areas where new objects can be investigated, and if needed, neutralized.

Piret discusses maritime strategy and cooperation with Denmark

The change in the Arctic with the ice melting and the interest by the Navy in doing more operations up there, is that changing your tasking a lot, or is it something you pretty much always done?

PIRET: As an Arctic Nation, the Navy has maintained a consistent presence in this challenging battlespace. Our presence and capability are regularly demonstrated at the bi-annual exercise, run by the Arctic Submarine Laboratory called Ice Exercise, or ICEX. We completed the most recent ICEX in March 2022.

Often with change, comes new opportunity and risk. The Arctic is no different. As ice in the high latitudes recede, opportunities to access natural resources, fisheries and more expeditious trade routes are starting to become the new normal. Part of the Navy's mission is to maintain freedom of the seas, which includes the Arctic.

At the forefront of monitoring and tracking worldwide ice conditions is the National and Naval Ice Center [USNIC]. In partnership with NOAA [the National Oceanic and Atmospheric Administration] and the National Weather Service, specifically the Ice Services Branch of the Ocean Prediction Center, USNIC observes, analyzes and forecasts ice for the better part of the last 65 years. This highly skilled team provides commanders the information they require to successfully operate in the harshest environment on Earth.

With eight Arctic nations in the world and a global economy, maintaining a peaceful and free Arctic that conforms to international rules-based order is not possible without our domestic and international partnerships. Internally, we partner with the US Coast Guard, NOAA/NWS operating in the

Arctic in order to better understand this environment. Internationally, we have strong partnerships with the Canadian Ice Service, Danish Meteorological Institute, Sweden, Norway, Finland, Demark, Canada, and New Zealand and others through organizations such as the North American Ice Service, the International Ice Charting Working Group and the International Cooperative Engagement Program for Polar Research. These organizations, amongst others, are key to setting and maintaining international standards, collaborating to best understand this complex and rapidly changing environment, and creating the most effective conditions for mariners to safely operate.

CNMOC is one of the largest operators of unmanned undersea and unmanned surface vehicles in the world. How many of those vehicles do you operate and what do you do with them?

PIRET: Naval Oceanography maintains and operates an inventory of nearly 200 unmanned underwater vehicles. These unmanned vehicles range from deep sea 6,000-meter vehicles to ocean gliders that collect data within the water column to remotely operated surface vessels, but they all aid in enhancing safety of navigation for our fleet.

Our team has developed deep expertise in unmanned operations over the last two decades. We've been using unmanned systems not only to sense the ocean and collect data, such as conductivity, temperature, and depth — which we can then turn into sound propagation models in the ocean — to surveying the ocean floor collecting boundary conditions, not only for navigation purposes, but also to use in modeling ocean dynamics for safe fleet operations. And then, of course, we have some experience in unmanned aerial vehicles as well, but not to the extent we have in unmanned surface and underwater vehicles. The Fleet Survey Team uses some unmanned surface vehicles to then chart harbors and bays in shallow water.

Many of the UUV systems we actually command and control from

our Glider Operations Center headquartered at the Naval Oceanographic Office at Stennis Space Center. One of the lessons we have learned over time, of course, is with unmanned vehicles, you really need to understand the environment to operate them successfully. That is something that we've been able to help the broader Navy implement in their operations as well.

You're adding another Pathfinder-class T-AGS oceanographic survey ship to the fleet. Some of those are around 20 years old. Do you see any need to recapitalize the T-AGS fleet in the foreseeable future?

PIRET: Certainly, the Chief of Naval Operations has highlighted the requirement for T-AGS vessels in his testimony. We are looking at what does the next class of survey vessels need to meet current and future fleet requirements.

Our current Pathfinder-class vessels remain world-class military survey ships. We have reinvested in them throughout their service lives. They have state-of-the-art survey equipment ranging from deep-water multi-beams to sub-bottom profilers and moving vessel profilers, so they can do a broad range work. But we are looking at, what does the next class of ship need to address to encompass, to be more versatile and better integrate unmanned systems into those vessels?

One of the requirements that we're looking at in the next class is optionally manned hydrographic survey launches. We need the ability to operate fully manned hydrographic survey launches deployed from a T-AGS vessel and then shift to remotely operated survey launches capable of full spectrum surveys from deep-water to littoral.

Through experience, we've also refined our ability smoothly shift from a deep-water bathymetry mission to operating unmanned underwater vehicles in ports in a relatively quick

fashion as well.

Piret congratulates AGC Megan Morehouse following the 2021 U.S. Navy Chiefs pinning ceremony at the Naval Construction Battalion Center in Gulfport, Mississippi, Nov. 19, 2021. *NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND / Lt. Bobby Dixon*

The latest Pathfinder T-AGS, USNS Maury, and the next one being built have moon pools for UUV operations. Is that working out well?

PIRET: Yes. We've learned a lot of lessons with the development of the Maury and we're continuing to improve on that design. With the new T-AGS 67, we're looking at what that deployment system needs to achieve, as some UUVs have gotten a little bigger and we've increased their mission time and been able to integrate more types of sensors. That seems to be ever evolving but there's a lot of potential there.

How does CNMOC and NOAA divide up oceanographic work between the two organizations?

PIRET: NOAA is charged with the hydrographic surveys for the

nation in U.S. territorial waters. The Navy is charged with the military surveys and produce charts in in partnership with the National Geospatial-Intelligence Agency in satisfying the Defense Department's global safety-of-navigation requirement. Those are the different roles and responsibilities between NOAA and the Navy, but we really do have a tight working relationship in terms of the survey standards, so when it's appropriate, data as well as improvements in technology can be shared. Also, we cooperate in the international venues and we're part of a number of commissions to help build capacity with partners across the globe.

But that's not where our partnership with NOAA ends. We've actually had a longstanding partnership in terms of data exchanges that extends to our work in atmospheric modeling as well as unmanned systems. Over the past several years, we've actually been collaborating in the deployment of gliders to measure heat content in the ocean and do a better job in modeling hurricane intensification along the U.S. East Coast as well as the Gulf Coast. That's really been a fantastic relationship.

CNMOC and your warfare specialty have been part of the information warfare community more than a decade now. Has that integration gone well, and do you see it having a multiplying effect on the service you give to the fleet?

PIRET: Integrating the information warfare skills sets has improved the lethality of the fleet. Frankly, with better understanding the battlespace, we reduce uncertainty and enhance the fleet's ability to maneuver effectively in the physical environment. And so, we're really increasing the effectiveness of those independent Information Warfare capabilities by bringing them together to more accurately and completely define the state of the battlespace and predict how it will evolve over time. This predictive capability improves weapons system employment our can better assess an adversary's weapons systems ability to effectively operate below, on, and

above the sea. This is where information warfare can increase our fleets' lethality.

Integrating information warfare teams further left in the Navy kill chains, we effectively reduce uncertainty in the combatant commanders' decision space regarding when, where and how they may most effectively employ forces.