

NAVY NEWS WEEK 9-1

26 February 2017

Nigerian Navy purchases OCEA patrol vessels

17 February 2017



The Nigerian Navy has placed an order for two FPB 72 and two FPB 110 coastal patrol vessels with the French shipyard OCEA. The order was confirmed to Jane's by Fabrice Weinbach, director of maritime safety and security at OCEA, who explained that delivery of both FPB 72s is expected to take place before the end of this year, while the two FPB 110s should be handed over in early 2018. Weinbach noted that this is the third time Nigeria has ordered ships from OCEA. It received a single FPB 98 Mk II in 2013 and three FPB 72 Mk IIs in 2012, all of which were purchased by the Nigerian Port Authority (NPA) for use by the navy. The FPB 72 is a 24 m vessel capable of attaining a speed of 35 kt. It can carry a single rigid-hulled

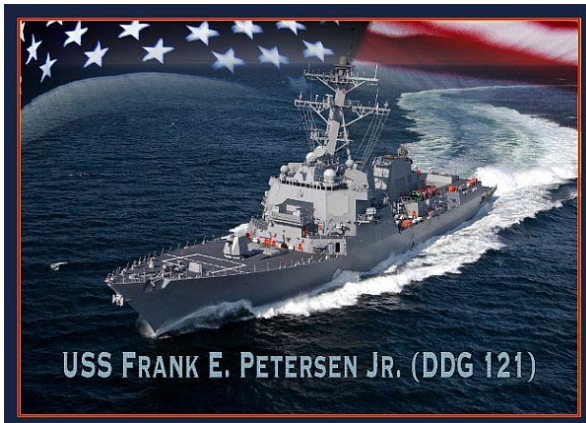
inflatable boat (RHIB) for boarding operations and can be armed with light and heavy machine guns. It can accommodate up to 12 people including its crew. It is also in service with the Suriname Coast Guard, which operates two units. The FPB 110 is a 35 m vessel with a maximum speed of 30 kt. It is outfitted to carry a single RHIB and can be armed with heavy machine guns or a 20/30 mm remotely operated cannon. It has room for 17 people, including its crew. Weinbach said that this latter characteristic was one of the reasons why Nigeria selected the type. The FPB 110 was originally designed in the early 2000s for Kuwait, which is its only operator with 10 vessels in service. The two ships ordered by Nigeria differ from their Kuwaiti ships in that they are to be equipped with conventional propellers instead of waterjets. OCEA specialises in aluminium construction and as such, both the FPB 72 and FPB 110 have aluminium hulls.

Source: <http://ipaidabribenaija.com>

Keel Laid for Future USS Frank E. Petersen Jr.

Release Date: 2/21/2017 2:43:00 PM

From Team Ships Public Affairs



WASHINGTON (Nov. 8, 2016) A graphic representation of the future **USS Frank E. Petersen Jr. (DDG 121)**. (U.S. Navy photo illustration by Petty Officer 1st Class Armando Gonzales/Released)

PASCAGOULA, Miss. (NNS) -- The keel of future guided-missile destroyer **USS Frank E. Petersen, Jr. (DDG 121)** was ceremoniously laid Feb. 21 at Huntington Ingalls Industries shipyard. Although official construction of DDG 121 began April 2016, the keel laying symbolically

recognizes the ceremonial beginning of the ship. The keel was said to be "*fairly and truly laid*" and was authenticated by D'Arcy Neller, the ship's sponsor, and Donald Brabston, a master Ingalls shipbuilder. "*The keel laying is the symbolic first step in shaping our nation's newest destroyer,*" said Capt. Casey Moton, DDG 51 class program manager, Program Executive Office (PEO) Ships. "*The ship will be a lasting tribute to Frank E. Petersen Jr., who made incredible contributions to naval and Marine Corps aviation, and DDG 121 will be an extremely capable destroyer for our Sailors.*" Frank E. Petersen, Jr. was the first African-American aviator and the first African-American Marine Corps general. When he retired in 1988 after 38 years of service, he was, by date of designation, the senior-ranking aviator in the Marine Corps and the United States Navy. DDG 121 will be built in the Flight IIA configuration with the Aegis Baseline 9 Combat System which includes integrated air and missile defense capability. This system delivers quick reaction time, high firepower, and increased electronic countermeasures capability for anti-air warfare. These multi-mission surface combatants serve as integral assets in global maritime security, engaging in air, undersea, surface, strike and ballistic missile defense, as well as providing increased capabilities in anti-submarine warfare, command and control, and anti-surface warfare. As one of the Defense

Department's largest acquisition organizations, PEO Ships is responsible for executing the development and procurement of all destroyers, amphibious ships, special mission and support ships, and special warfare craft. Source: www.navy.mil



MEDITERRANEAN SEA (Feb. 18, 2017) The fast combat support ship **USNS Supply (T-AOE 6)** resupplies the Danish navy frigate **HDMS Peter Willemoes (F 362)**, left, and the U.S. Navy aircraft carrier **USS George H.W. Bush (CVN 77)** during a replenishment-at-sea in the Mediterranean Sea. The George H.W. Bush Carrier Strike Group is conducting naval operations in the U.S. 6th Fleet area of operations in support of U.S. national security interests. (U.S. Navy photo by Mass Communication Specialist 3rd Class Michael B. Zingaro/Released)

China displays trimaran frigate design

By: [Christopher P. Cavas](#), February 21, 2017 (Photo Credit: Christopher P. Cavas / Staff)



ABU DHABI, United Arab Emirates – Navies have flirted with exotic hull forms for decades, and the US Navy is producing Independence-class littoral combat ships with a wave-piercing trimaran hull form. Now the Chinese Navy seems to be preparing a trimaran design that could enter production as a frigate for the People's Liberation Army Navy (PLAN) and for export. "We are in the development and design

phase of the project," said You Yue, China Shipbuilding Trading Company's deputy director for business development for Western Asia and Africa. "The plan form is fixed but many details remain," he said. The plan form – the trimaran hull – allows the frigate to have a far greater beam than the more conventional monohull configuration. You also noted the ship will feature hull and superstructure shaping to reduce its radar signature. A model displayed this week at the IDEX show here in Abu Dhabi combined, You said, many features which could be included in the PLAN's version or in an export variant and did not necessarily depict a ship now under construction. Final decisions on the power plant, armament, sensor and combat system have yet to be made, he cautioned. Data displayed with the model gave a displacement of about 2,450 tons; dimensions of 142 meters in length, 32 meters in beam and a draft of 6.2 meters. The power plant was given as a "marine electric propulsion system" with a speed of 25 knots and endurance of 5,000 nautical miles at 16 knots and 30 days. Those figures could change for a production ship, You said, with a speed probably somewhere above 30 knots. He said an all-MTU diesel propulsion plant was being considered, driving three waterjets. The model displayed the range of weapons typical for a small warship: a gun in the 76mm or 100mm range; a vertical launch system for surface-to-air missiles behind the gun and forward of the superstructure; surface-to-surface missiles in canister launchers amidships; close-in weapon systems and chaff launchers. The sensor suite was sized for a light frigate. The model featured a double hangar and side doors along the hangar to launch small boats. There is no mission bay as in the American LCS, and no stern doors below the flight deck, which sits relatively low and close to the water. A bow sonar is depicted. With the design still to be finalized, You said he

didn't expect construction of the first PLAN trimaran frigate to begin before 2018. Along with the trimaran, CSSC – a consortium of more than a dozen Chinese shipbuilders formed to promote the industry -- displayed a number of designs available for export, most based on existing PLAN or Chinese Coast Guard designs. The largest was a 25,000-ton variant of the Chinese Navy's Type 071 LPD landing ship dock. Shen Yue, CSSC's project manager for Africa and West Asia, noted customers could choose different features than those fitted in PLAN LPDs, including a different power plant, modified flight deck and weapons fit, and a different combat management system. Other designs on display included several frigate and corvette designs, ranging from 1,000 to 4,000 tons; a 22,000-ton replenishment ship similar to those built for the PLAN; and a number of smaller Coast Guard vessels.

Source: <http://www.defensenews.com>

Looking at the picture, one would think that one was looking at the trimaran version of the USN LCS.

China's warships conduct training in Indian Ocean: State media

Updated: Feb 21, 2017 19:36 IST



This image was posted by Chinese official state media Xinhua on Twitter, captioned 'Chinese navy flotilla carries out high-seas training in east Indian Ocean.(Twitter/ @XHNews)

China's warships have carried out a high-seas training in the Indian Ocean, state media reported on Tuesday. The official news agency did not provide any details of

the exercise held in the Indian Ocean, considered India's backyard, where the People's Liberation Army Navy has been increasingly active. Chinese navy's increasing presence in the Indian Ocean comes following the release of a White Paper published by the PLA in 2015 outlining a new military strategy enhancing its navy's duties for the first time to "open seas protection" far from its shores. The presence of Chinese submarines at Colombo port and most recently in Karachi have sparked concerns in India.

Source: <http://www.hindustantimes.com>

US resumes its provocative actions in sea

By Xu Lushan | China Daily | Updated: 2017-02-22 07:50



Missile destroyers **Changsha** and **Haikou**, part of the Chinese Navy's Nanhai Fleet, fire at simulated enemy destroyers during a counter-attack drill in the South China Sea on Feb 19, 2017. [Photo/Xinhua]

The USS Carl Vinson Nimitz-class carrier strike group has begun patrolling the South China Sea, proving the speculation over the past few days was true. On Feb 12, the US Navy Times reported that the United States

Navy was planning to dispatch warships to the South China Sea for "freedom of navigation" operations — in a move apparently meant to challenge China's sovereignty claims over some islands and reefs in those waters. In response to the US Navy's anticipated provocative move, Chinese Foreign Ministry reiterated China's indisputable sovereignty over the South China Sea islands and adjacent waters. Beijing has consistently respected every country's right to freedom of navigation and overflight in the South China Sea in accordance with international law, but it firmly opposes any country's attempt to undermine China's sovereignty and security. Despite China's strong opposition, the US Navy announced the nuclear-powered **USS Carl Vinson** began "routine operations in the South China Sea" on Saturday. This is the first time after the inauguration of Donald Trump as US president that a US Nimitz-class carrier strike group has sailed into the South China Sea. Thanks to the joint efforts of China and members of the Association of Southeast Asian Nations, the situation in

the South China Sea had started to stabilize. Given this important fact, any responsible power should have welcomed the development and made efforts to help the different parties maintain the positive momentum. But the US has its own agenda. By dispatching the **USS Carl Vinson** to the contentious waters, the Trump administration has signaled that it has no intention of respecting the regional countries' efforts to maintain peace and stability in the South China Sea. Yet by doing so, the US has made the international community realize that its so-called freedom of navigation operation is nothing but an effort to hide its real intention. In a white paper on its military strategy, published in May 2015, the Chinese government made it clear that its military pursues a defensive defense strategy but will not be cowed: "*China does not offend others if not offended, and will surely offend others if offended*". And in 2016, the Chinese navy declared that it is not afraid of any military provocations and that all attempts to make China succumb to military power will fail. Some may argue that by sending warships or aircraft to the South China Sea, the US only wants to show off its military might and disturb China's resolve to safeguard its sovereignty and security. Others may say Washington's provocative actions in the South China Sea are mainly aimed at creating trouble for China in order to disrupt the pace of its peaceful development, and maintain the US' sole superpower status. Both arguments seem reasonable but do not reflect the full picture. By sending the **USS Carl Vinson** to the South China Sea, the Trump administration has sent a clear message to the international community that it will carry forward the pivot to Asia strategy of former US president Barack Obama, which is aimed at containing China's rise and maintaining the US' hegemonic status in Asia, indeed the entire world. The US administration could also repeatedly use the South China Sea issue as an important chip to force China into making more concessions during bilateral talks. Besides, there is no reason to believe the **USS Carl Vinson** will be the only card Washington plays in an attempt to exhibit its military strength in the region. So, China should be well prepared to play a "*protracted game*" with the US in the South China Sea. More important, Beijing should not make any unprincipled concessions that may allow outside forces to use the South China Sea issue as a chip to blackmail China.

The author is an associate professor at the PLA Navy's Dalian Warship College. Source: <http://www.chinadaily.com.cn>
It is clear where his sentiments lie.

Fincantieri to deliver nine future generation frigates for the Royal Australian Navy

Tuesday, Feb 21, 2017

A company delegation in Sydney to support the tender for the SEA 5000 programme

The Chairman and CEO of Fincantieri, Giampiero Massolo and Giuseppe Bono, together with the General Manager, Alberto Maestrini, took part in a series of high level institutional meetings in Sydney. The industrial mission comes under Fincantieri's participation in the Future Frigates - SEA 5000 programme, for which the company has been shortlisted to deliver nine future generation frigates for the Royal Australian Navy (RAN). Worth at around \$35 billion, this program is one of the most important naval surface shipbuilding projects in the world, in which Fincantieri is ready to put its capabilities through transfer of technology at the service of the Australian Government and its Navy. In order to further strengthen its on-site presence, at the end of 2016 Fincantieri Australia, was established and headquartered in Canberra, to work with the Government, the main businesses involved in the Australian shipbuilding industry and the supply chain, within the programme of the frigates, to be built in Adelaide, with a significant increase also in employment levels. Fincantieri participates in the bid, building on the success of its FREMM Frigate model, in service for the Italian Navy. ITS "**Carabiniere**", the fifth of ten frigates, delivered by Fincantieri in 2015 to the Italian Navy, is in Sydney, too. As of the beginning of 2017 the frigate is being engaged in a naval campaign and joint training activities with the Royal Australian Navy. This mission aim is to present on-site an absolutely cutting-edge product and show Fincantieri's total commitment in the SEA 5000 programme. Sydney is the third stopover of "**Carabiniere**" in Australia, after Fremantle and Adelaide. Before her return to Italy, the unit will also visit Melbourne. In parallel with the frigate's presence in Australia, Fincantieri held a series of meetings in the ports where "**Carabiniere**" stopped, with local businesses to explore potential future partnerships.

Source: <http://www.yourindustrynews.com>

In spite of the heading, please note that the final decision is still to be taken.

Amatola readies for war games with Germany

Written by Dean Wingrin, Tuesday, 21 February 2017



As **SAS Amatola**, the South African Navy (SAN) frigate presently in the UK and taking part in today's commemorations of the 100th anniversary of the sinking of the troopship **SS Mendi** during the First World War, she is also preparing for the seventh iteration of **Exercise Good Hope** with Germany. **Amatola** is on a 96 day operational, commemoration and diplomatic visit to various European and African countries, known as **Operation Ketane**. Fregattenkapitän (Commander) Kai Brand, Deputy Defence Attaché at the German Embassy in Pretoria, told defenceWeb **Exercise Good Hope VII** is an advanced

national exercise at the tactical level, "going through all the naval warfare exercises, mainly anti-surface and anti-air." The exercise will include a combined German Sea Battalion and SAN Maritime Reaction Squadron performing joint boarding exercises. The Good Hope series has traditionally been hosted by South Africa, but due to austerity measures and other commitments and exercises at the same time, Germany invited South Africa, an offer which was accepted. This sees Germany as the lead nation in the naval exercise for the first time. **Amatola** will be the sole South African participant alongside German Navy vessels including **FSG Augsburg (F213)**, a Bremen-class frigate, **FSG Bonn (A1413)**, a Berlin-class replenishment ship and the replenishment oiler **Rhön (A1443)**. Besides the four vessel Task Group, Germany will contribute all the air and subsurface platforms for the exercise. **Amatola** has an SA Air Force (SAAF) Super Lynx maritime helicopter from 22 Squadron embarked. Captain Frans Roux, Officer Commanding Amatola, said because the SAN does not often frequent European waters, the German Navy has "been kind to give us three officers who join us on the way up to Spain, to help in preparations for European waters. They will supplement the training we will do on board." Part of the training included the German officers conducting many simulated exercise and emergencies to prepare the crew for the Royal Navy's Basic Operational Sea Training (BOST). BOST took place from 13 to 17 February 13 to 17. Following completion of BOST at Naval Base Devonport, **Amatola** proceeded to Portsmouth for the SS Mendi commemoration, the highlight and priority of the deployment. The ship proceeds to Kiel in Germany on February 24 to participate in **Exercise Good Hope VII**, which starts on February 26 and ends on March 10. Besides assisting with BOST preparations, the three German officers also assisted the South Africans for operations in the cold Baltic Sea where the sea phases of **Exercise Good Hope VII** will take place. Brands said weather in the southern hemisphere "is a lot more challenging" adding they would be working in "the Baltic, a high density maritime traffic area." After arrival in Germany, shore training drills will be undertaken during the first week of the exercise at the German Naval Damage Control Training Centre in Neustadt. This facility is not new to the SAN as the initial frigate crews were trained there prior to sailing the four new Valour Class (Meko A200) frigates to South Africa in the mid-2000s. The second week will consist of at-sea phases in the Baltic, where the South Africans will face additional challenges in the form of average air temperatures of just 10° Celsius and a water temperature of 8°. Captain Michael Boucher, the Task Force Commander for **Operation Ketane**, noted two South African officers will form part of the German Task Force Commanders' Staff aboard their flagship during the exercise. "Of course," Boucher added, "we have operational headquarters in Simon's Town that will be conducting the exercise from there at an operational level." With both Germany and South Africa having strategic interests in working in the naval area, Brand feels "both countries can learn a lot from each other. It's important to maintain relations and work together". **Exercise Good Hope VII** is "a good and rich exercise" he concluded. **Amatola** is scheduled to arrive back in Simon's Town on April 22, having conducted diplomatic visits to various West Coast African countries. Source: <http://www.defenceweb.co.za>

IDEX 2017: China offers S-26 conventional submarine with Stirling engine AIP

Richard D Fisher Jr, Abu Dhabi - IHS Jane's Defence Weekly
22 February 2017



An image released during IDEX 2017 clearly shows an oxygen tank (circled in red) for the Stirling cycle AIP system. (CSOC)

The China Shipbuilding and Offshore International Corporation (CSOC) used the IDEX show in Abu Dhabi to market its S-26 conventional submarine for the first time with what it calls a "unique" version of the Stirling cycle engine air-independent propulsion (AIP) system. Stirling cycle AIP systems use liquid oxygen and diesel fuel to power submarine electrical generators and extend submerged endurance. A Stirling AIP has long been thought to equip the People's Liberation Army Navy (PLAN) Type 039B Yuan-class submarine, which forms the basis for the S-26 export variant. A submarine model on display at IDEX and a new brochure clearly showed the S-26 has a large liquid oxygen tank to support its Stirling engine AIP. CSOC officials would not provide an estimate of the submerged endurance for the S-26 model on display, saying it could be tailored to customer requirements. Another industry source at IDEX familiar with AIP systems said that they doubted that the Chinese Stirling AIP, as configured, would provide submerged endurance for a week. A CSOC brochure notes that its 2,660 ton displacement 'Conventional Submarine' has a length of 79.5 m, a beam of 8.6 m, maximum speed of 18 kt, a range of 8,000 n miles at 4 kt, and a maximum dive depth of 300 m. Source: <http://www.janes.com>

China building third aircraft carrier to protect 'overseas interests'

PTI | Updated: Feb 21, 2017, 01.30 PM IST

Highlights

- Chinese experts said China is on course to build 5-6 aircraft carriers.
- The first aircraft carrier, **Liaoning**, is a refitted Soviet-era ship
- The latest carrier, under construction at Shanghai, is based on US models



Chinese J-15 fighter jets waiting on the deck of the **Liaoning** aircraft carrier during military drills

BEIJING: China is building a third aircraft carrier based on American models as it seeks to fortify its claims in the disputed South China Sea and dominate the larger [Indian Ocean](#) region to realise its blue water aspirations. Chinese experts said

China is on course to build 5-6 aircraft carriers. While the first aircraft carrier, **Liaoning**, is a refitted Soviet-era ship, the second is being built on the same model with more advanced facilities and is likely to enter service in 2020. The latest carrier, under construction at Shanghai, is based on US models, state-run Global Times reported today. Based on information released by Chinese defence ministry, the second Type 001A carrier being built at the northeast Dalian port uses the ski-jump technology for aircraft to take off, like the first carrier Liaoning rather than a more advanced catapult technology used by American carriers. The second aircraft carrier is expected to have a displacement of 50,000 tonnes. China is looking into catapult technology for the third Type 002 carrier being built in Shanghai, the daily quoted Li Jie, a naval military expert, as saying. "In other words, 002 is entirely different from **Liaoning (001)** and 001A, and it will look like a US aircraft carrier rather than a Russian one," Li added. Official Chinese media have earlier reported about the possibility of a third carrier but it is the first time they have announced that it was being built. Most advanced carriers use the Electromagnetic Catapult System, or Electromagnetic launcher (EML), to launch fighter jets, but China is also testing steam catapults, Li said. "In order to protect China's territories and overseas interests, China needs two carrier strike groups in the West [Pacific Ocean](#) and two in the Indian Ocean. So we need at least five to six aircraft carriers," Yin Zhuo, a senior researcher at the PLA Navy Equipment Research Centre, said. Chinese media has often highlighted the construction of aircraft carriers as the US deployed aircraft carriers in the disputed South China Sea challenging Beijing's claims. The US Navy on Sunday announced that an aircraft carrier strike group has begun "routine operations" in the South China Sea. The announcement came despite a warning from China not to interfere with Chinese sovereignty in the region. China has a long history of maritime disputes with its South China Sea neighbours. It claims almost all of the South China Sea, despite objections from the Philippines, Malaysia, Brunei and Vietnam.

Source: <http://timesofindia.indiatimes.com>

Kelvin Hughes To Supply I-Band SharpEye Submarine Radar Systems To Pakistan

Our Bureau

10:46 AM, February 21, 2017



I-band SharpEye Submarine Radar (Image: Kelvin Hughes)

Kelvin Hughes has won a contract to supply the I-band SharpEye Doppler submarine radar system as part of a mid-life upgrade program for the Pakistan Navy's Agosta 90B-class submarines (also known as the Khalid class diesel electric attack submarine). Working with Turkish defence

contractor STM, the main contractor for the refurbishment programme, Kelvin Hughes will supply the SharpEye system to the first submarine in 2018, the company said in a statement Tuesday. Traditionally, submarines only tend to use radar for navigation when entering or leaving port, because high-power RF transmissions can compromise their ability to remain undetected when used in more open waters. However, with its low power, pulse Doppler transmission technology, SharpEye can provide a reduced probability of intercept which significantly lowers the risk of the submarine being detected but without compromising the target detection performance of the radar. The SharpEye™ transceiver can be located within the pressure hull, making use of the existing bulkhead infrastructure, antenna rotational drive and waveguide connections. Doppler processing of the radar returns means that more targets can be detected, earlier and at a longer range. Delivering improvements in sub-clutter visibility of approximately 30dB, SharpEye™ can identify small, low RCS (Radar Cross Section) targets, even in adverse weather conditions. A series of electronic filters enables SharpEye™ to distinguish between targets of interest and unwanted sea and rain clutter. Earlier this year, Karachi Shipyard & Engineering launched the Pakistan Navy's 17,000 tonne fleet tanker and Kelvin Hughes can also now announce that it has been contracted to supply the ship with SharpEye and E/F frequency band Doppler radar as well tactical radar software and widescreen displays. The combined systems will equip the vessel with warship navigation and tactical situational awareness capabilities, including helicopter tracking, recovery and control.

Source: <http://www.defenseworld.net>

Indian Navy Issues RFI To Procure 11 Submarine Version Warship Information Systems

Our Bureau

11:01 AM, February 21, 2017



Warship Electronic Chart Display and Information System

The Indian Navy has issued a Request for Information (RFI) to procure 11 Submarine version Warship Electronic Chart Display and Information System (WECDIS) along with its associated equipment. According to the RFI issued on the 15th of this month, The

WECDIS is to be installed on-board submarines of the Indian Navy (IN) and will be one of the means of navigation on-board. The WECDIS should therefore offer features which assist in navigating a submarine when on Surface and in Dived state underwater. The system is also required to display other additional information provided by a variety of submarine systems used in support of the weapon systems, with the aim of optimizing situational awareness and providing inputs for various operations. The overall timeframe of production, delivery with stage wise break-up of the entire project post conclusion of contract is required to be submitted. It is envisaged to commence installation of WECDIS for Submarine application on indicated submarines within 6-8 months of signing of Contract. Transfer of Technology is not being sought. However, vendors are to indicate their capability to execute the project and provide product support including Technical support for maintenance of the WECDIS for submarine application during its service life, including warranty. The service life of the facility should be at least 10 years.

Source: <http://www.defenseworld.net>

Distributed Lethality and Situational Awareness

February 21, 2017 Guest Author



ATLANTIC OCEAN (June 27, 2012) Air-Traffic Controller 2nd Class Karina Reid operates the SPN-43 air search radar system while standing approach control aboard the amphibious assault ship **USS Wasp (LHD 1)**. (U.S. Navy photo by Mass Communication Specialist Petty Officer 2nd Class Gretchen M. Albrecht/Released)

By Richard Mosier

Introduction

The distributed lethality concept represents a distinct change in Surface Navy operations, one that emphasizes the offense, and one that requires the freedom of action only possible under mission orders. Both place heavy reliance on the Surface Action Group (SAG) having information superior to that of the enemy in order to be hard to find and thus avoid attack and achieve the offensive advantage of surprise. This is enabled in large measure by situational awareness: the warfare commanders' perception of the tactical situation. It is achieved by the continuous collection, correlation, fusion, assimilation and interpretation of information from force organic systems, and nonorganic national, theater, and Navy systems.

Deconflicting Doctrine

A core element of the distributed lethality concept is that SAG commanders operate under mission orders that allow them the freedom to make tactical decisions, a major change away from the long-standing convention of detailed direction from higher headquarters located ashore or on a CVN with its substantial tactical intelligence decision support capabilities. Consequently, the surface navy has had no driving requirement for the sophisticated Common Tactical Picture (CTP)¹ or "plot" capabilities that are now required onboard surface combatants for the situational awareness required for the planning/re-planning, and tactical execution of distributed missions. Current doctrine regarding the allocation of responsibilities for maintaining the Common Tactical Picture CTP or "plot" is fragmented. In accordance with NWP 3-56, [Composite Warfare Doctrine](#), the Surface Warfare Commander (SUWC), ASW Commander (ASWC), and Air Defense Commander (ADC) are responsible for using all available information to maintain a complete geographic plot for their respective warfare areas. NWP 3-56 also assigns to the Information Operations Warfare Commander (IWC²) responsibility for integrating real time Electronic Surveillance (ES) contact reports with indications,³ and warning⁴ information. [NWP 3-13, Information Operations](#), assigns the IWC responsibility for achieving and maintaining information superiority; establishing and maintaining the CTP through spectrum awareness; and, for integrating real-time ES contact reports with indications and warning information. Further, NWP 3-56 assigns a Common Tactical Picture Manager (CTPM) responsibility for establishing, maintaining, assuring quality of, and disseminating the fused all-source GENSER CTP. [NWP 2-01, Intelligence Support to Naval Operations](#), describes a concept in which the principal role of intelligence in support of warfare commanders is to characterize the threat and classify all threat targets that may enter the detection range of U.S. or coalition naval forces. It states: "*Intelligence correlates and fuses all source data, including intentions, to determine the threat, threat direction, and operational characteristics of the threat platform before the threat platform is detected by own forces.*" It further states: "*Operational and tactical intelligence support is designed to detect, classify, target, and engage all hostile subsurface threats before they reach maximum effective weapons release range.*" When viewed together, NWP 3-56, NWP 3-13, and NWP 2-01 suggest that the Navy needs a concept and coherent allocation of responsibilities for developing and maintaining the CTP, especially as it applies to a SAG operating in EMCON while executing mission orders.

Impetus for Change

Changes to current Navy doctrine to accommodate the concept of distributed lethality will be driven by at least two factors.

First, to achieve the surprise that is essential for distributed lethality mission success, the SAG will have to operate in RF silence to deny the enemy the opportunity to detect the force with passive RF sensors, one of the primary methods for surveillance of large areas to gain initial location and classification of detected units. All communications to the SAG from supporting entities will have to be routed to and disseminated via narrow and wideband satellite broadcasts such as CIBS-M and GBS. In effect, the SAG gets all the shore support while remaining hard to find thereby minimizing risk of attack.

Second, the surface navy will have to develop and field intra-SAG communications that are sufficient to command and control the force and maintain the CTP but covert enough to minimize the probability of detection and location by the enemy.



PACIFIC OCEAN (June 5, 2008) Chief Engineer, Lt. Dave Ryan, evaluates a tactical image in the combat information center of the guided-missile frigate **USS Kauffman (FFG 59)** during an anti-submarine warfare (ASW) exercise with the Chilean navy. (U.S. Navy photo by Mass Communication Specialist 2nd Class J.T. Bolestridge)

Third, surface combatants have neither the space nor the systems to support the large intelligence presence such as that found on

a CVN or other big deck. This suggests that when in EMCON, the SAG will be more heavily dependent on tactical intelligence provided from shore. Some sensor information such as combat information⁵ cannot be processed ashore into tactical intelligence in time to meet SAG requirements. Therefore, SAG combatants will require dramatically improved capabilities for automatically integrating tactical intelligence, combat information, and organic force sensor information. Given the criticality of time in tactical decision making, automated information correlation and fusion capabilities are essential. However, their output is never perfect or complete so the crew will have to have the skills, knowledge, and abilities to analyze and resolve ambiguities and conflicts.

Conclusion

Distributed lethality depends on being hard to find and securing the element of surprise enabled by superior situational awareness. With the adoption of the distributed lethality concept, it is essential that the concept and doctrine for establishing and maintaining the CTP be reviewed and optimized to assure warfare commanders enjoy the tactical advantage of decision superiority over an adversary. The clear assignment to the shore intelligence structure of responsibility for the accuracy, completeness, and timeliness of tactical intelligence support to the SAG would result in renewed focus on tactical requirements and renewed appreciation of the critical importance of the clock at the tactical level. Moreover, it would drive a new hard-edged fleet focus on the ability of shore-based tactical intelligence support elements to provide this mission-essential support. The clarification of responsibilities onboard ship for maintaining the CTP would serve to focus attention on the ability of those responsible to maintain situation awareness that comports with the realities of the operating environment. As shortfalls and opportunities are identified, the fleet would refine its requirements for the manning, training, and equipping of surface combatants to achieve the information superiority that is the key to mission success. As stated by [VADM Rowden in the January 2017 Proceedings](#): “The force we send forward to control the seas must be powerful, hard to find, hard to kill, and lethal. These are the bedrock tenets of distributed lethality...” The concept has gained wide support in the surface navy and is being adopted as a broader Navy operating concept. Rapid progress is being made by the surface navy under the leadership of the surface warfare Type Commands and OPNAV N96. Changes to doctrine to accommodate command control of operations on mission orders are being investigated. Surface forces are being up-gunned to be more lethal. Surface Warfare Officers are being trained and developed as warfare experts for air, surface, and ASW at the Naval Surface and Mine Warfighting Development Center. This beehive of activity is resulting in rapid progress in all warfare areas except for Information Operations. Progress in this fourth foundational warfare area remains in limbo, owed in large measure to unaddressed OPNAV and Type Command organizational relationships and responsibilities for manning, training, readiness, equipping and modernization of the fleet for the planning and conduct of Information Operations. In the absence of progress in this warfare area the success of the distributed lethality is at risk against any near-peer nation with a sophisticated ISR capability.

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Endnotes

1. Common Tactical Picture — An accurate and complete display of relevant tactical data that integrates tactical information from the multi-tactical data link network, ground network, intelligence network, and sensor networks. Also called CTP. (JP 3-01)
2. IWC in NWP 3-56, NWP 3-13, and as used in this article is the Navy's abbreviation for Information Operations Warfare Commander. It shouldn't be confused with the Navy's use of the same abbreviation to denote the Navy's Information Warfare Community.
3. Indications — In intelligence usage, information in various degrees of evaluation, all of which bear on the intention of a potential enemy to adopt or reject a course of action. (JP 1-02)
4. Warning intelligence — Those intelligence activities intended to detect and report time sensitive intelligence information on foreign developments that forewarn of hostile actions or intention against United States entities, partners, or interests (JP 1-02)
5. Combat Information — Unevaluated data, gathered by or provided directly to the tactical commander which, due to its highly perishable nature or the criticality of the situation, cannot be processed into tactical intelligence in time to satisfy the user's tactical intelligence requirements. (JP 2-01)

Source: <http://cimsec.org>

South Africa: Gliders Are Helping Unlock the Secrets of the Agulhas Current

analysis *By Marjolaine Krug*

20 February 2017

The Agulhas Current flows along the eastern shores of South Africa. It is one of the most powerful currents in the world, with velocities in the current often [reaching 4 knots](#). By comparison, maximum current velocities in the Benguela Jet are about 1 knot. Because of its width and depth, the Agulhas Current - like the Gulf Stream - is a major driver of the global and regional climate. Understanding how the Agulhas Current varies is hugely important for other reasons too. Its interactions with coastal and shelf waters as a result of slight changes in its path or strength affect major economic activities like fishing, oil and mineral exploration and ship routing. For example, interactions between the current flow and a large swell from the Southern Ocean can lead to rogue waves, a major hazard for ships. Changes in ocean circulation and water properties also have a direct impact on marine environments' productivity, the availability of food for fish species and how and where fish move. South Africa's coasts and shelves are home to more than 2,200 sea fish species, many endemic fish and [many exotic fish](#). But this marine richness is under increasing threat from humans, particularly along the densely populated east coast. A good knowledge of ocean current conditions along South Africa's south eastern shores is therefore essential to adequately manage the rich marine ecosystems. But how the powerful Agulhas Current influences coastal regions is still poorly

understood. This is because ocean currents between the Agulhas Current and the coast change rapidly in time and space. This makes them very challenging to observe.

Observing the Agulhas Current

Oceanic features between the Agulhas Current and the coast can't be properly observed using traditional observing platforms. These include satellites, single ship surveys or oceanographic moorings - instruments attached along a cable anchored to the sea floor. For example, in the case of the [Agulhas System Climate Array](#) which was first deployed in 2015, each of the moorings in the array are about 25 km apart. So while the array is very useful for quantifying large scale and long-term changes in the Agulhas Current, it can't observe the fine scale variations at the landward edge of the Agulhas Current which have a strong impact on the shelf and coast. Gliders don't have these limitations. These autonomous robotic platforms use two-way communications to relay data back to the shore in real time. Sensors on gliders measure things like pressure, temperature, salinity, ocean current and biological variables. They can provide continuous (multi-month) measurements at high spatial (100s of meters to kms) and temporal (0.5-4 hourly) resolution. Gliders are cost-effective and easy to deploy. They are increasingly becoming integrated in global marine observing systems.

Putting the gliders to use

Gliders have been successfully used in the Southern Ocean region since [2012](#). But there has been no sustained programme established around the South African coastline. There have been some baby steps. Two years ago the first ocean gliders were deployed in the [Agulhas Current region](#). The project was a collaboration between the [Council for Scientific and Industrial Research](#), South Africa's central and premier scientific research and development organisation and the [South African Environmental Observation Network](#). These [first glider observations](#) showed how useful they can be. For example, the gliders observed changes in and near the Agulhas Current currents happening over distances of 1-10 km. Over a period of one month, observations collected from two gliders revealed the presence of [small cyclonic \(clockwise\) eddies](#) at the edge of the Agulhas Current closest to the coast. These ocean cyclones were triggered by interactions between the Agulhas Current and the sea-bed. The knock-on effect of these small cyclones was to cause intermittent currents towards the north-east - that is, against the Agulhas Current flow. Counter currents like this could help fish species in the region migrate from the southern to northern Agulhas, like the [sardine run](#) when millions of sardines travel from the Agulhas Bank to the Natal Bight in Kwazulu Natal. This usually happens between May and July. During this period the young sardines may take advantage of similar periods of north-eastward flow to progress against the Agulhas Current. More high resolution observations are needed to determine how often ocean features like these small cyclones occur and to improve our understanding of their impact on the marine ecosystem. Ocean science research in South Africa has historically been divided between the large scale domains - ocean basin scales - and inshore coastal domains -bays and estuaries and within a few kilometres of the shores. An ocean glider network could provide the continuous and high resolution ocean observations which are needed to connect deep ocean variability to our coastal regions.

Disclosure statement

Marjolaine Krug receives funding from the Council for Scientific and Industrial Research (CSIR) (YREF grant EEE0034, and PG grant EEE0023). She is affiliated with 1) the department of Oceanography, University of Cape Town, and 2) the Nansen-Tutu Center for Marine Environmental Research, University of Cape Town. She works for the CSIR Natural Resources and the Environment (CSIR-NRE) and within the Ecosystem Earth Observation group. Marjolaine Krug is a member of the GCOS-GOOS-WCRP Ocean Observations Panel for Climate and the OceanGliders Boundary Ocean Observing Network.

Source: <http://allafrica.com>