



# MAKING WAVES

*A maritime news brief covering:*

- **MARITIME SECURITY**
- **MARITIME FORCES**
- **SHIPPING, PORTS AND OCEAN ECONOMY**
- **MARINE ENVIRONMENT**
- **GEOPOLITICS**

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# MARITIME SECURITY

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## U.S. NAVY SELECTS LOCKHEED MARTIN TO DELIVER LARGE UNMANNED SURFACE VESSEL STUDY

- Lockheed Martin

Lockheed Martin will provide a study for a proven, integrated and capable payload ship, able to patrol for extended durations, as part of the U.S. Navy's Large Unmanned Surface Vessel (LUSV) competition. Lockheed Martin is partnering with Portland-based Vigor Works, LLC as the team's shipbuilder. As prime contractor, Lockheed Martin will manage the program, deliver platform integration, systems engineering, combat management, automation and cyber solutions. "The Lockheed Martin team brings together nearly 200 years of combined experience in shipbuilding, integration, automation and autonomy," said Joe DePietro, Lockheed Martin vice president and general manager of Small Combatants and Ship Systems. "Our team is energized by and focused on delivering the Navy what they've asked for – a design for an affordable, low-risk ship capable of bringing the Navy's Distributed Maritime Operations (DMO) vision to life." The Lockheed Martin team's design uses a proven commercial ship that will be augmented with automation, autonomy and cybersecurity elements to house a payload. The design leverages Lockheed Martin's autonomy and automation experience, including our proven platform-agnostic Sikorsky MATRIX™ technology that's been used to fly a helicopter from a wireless tablet, and our AXIS™ control technology, used on more than half of U.S. Navy surface ships to manage engineering and machinery controls.

Under the \$7 million contract, Lockheed Martin will deliver the study within 12 months in advance of the next phase of the competition – the Navy's LUSV Detailed Design & Construction competition. "We are honored to be part of the Lockheed Martin team and to leverage our extensive fabrication expertise, including previously building 16 USVs of various designs and sizes," said Richard McCreary, Vigor vice president, business development. "We are ready to deliver a concept design that will help the Navy deploy a safe, efficient and affordable LUSV fleet for the future." The Navy's vision for USVs will enable the fleet to fight as a distributed, networked and more lethal force. USVs will provide extended presence across the globe with reduced risk to sailors and increased obstacles and complications for adversaries.

**Source:** [milaero.icconnect007.com](https://milaero.icconnect007.com); 17 September 2020

## **SAT-COM TAKES PART IN SECURE WATERS AFRICA CONFERENCE**

Namibian military radio specialist Sat-Com was one of the participants in the Secure Waters Africa digital conference held last week, and examined the importance of communications in the maritime security domain.

The Secure Waters Africa digital conference brought together senior officials from key African countries' Navy and Marine Corps, Coast Guards and Law Enforcement Authorities to discuss innovative strategies and solutions, such as C4ISR, drones, and surveillance systems, that will help African military and law enforcement agencies prevent and counter maritime threats and illegal activities and increase the continent's territorial and international waters security. With over 30 000 kms of coastline, Africa has several key and strategic geographic locations that are considered as emerging trade hubs, which play a vital role in the continent's socio-economic prosperity and the growth of global commerce. However, maritime insecurity presents a critical challenge to the continent, hindering it from unlocking its maritime potential. Crimes, including piracy, kidnapping, armed robbery, and oil bunkering are increasing and pose serious threats to the seafarers. According to the International Maritime Bureau, 90% of the world's maritime piracy crimes take place in the Gulf of Guinea alone. This increase in maritime illegal activity has urged the local and regional authorities to work collaboratively on adopting maritime domain awareness and counterpiracy, and illegal activity monitoring and prevention strategies and solutions that can enable them to safeguard security and safety of seafarers, including oil companies and fishing and shipping lines passing or operating on the continent's waters.

The conference held several panel discussions and presentations to examine the threats to maritime security in Africa, with representatives from the Ghanaian, Guinean, Ivory Coast, Beninese and Senegalese navies as well as think tanks and private companies. Sat-Com Managing Director David Brown said that Namibia is no stranger to maritime problems. "Our fishing resources are also being plundered by big operators internationally. We don't suffer much from piracy but many of our customers do." "One of our biggest issues is communications," he told delegates. "We excel as our solutions are born on the African continent. You can't just have land communications, you can't just have marine communications like VHF like ships use, or ground-to-air or air-to-air like aeroplanes use. You need all of it and preferably all in one. With that in mind we've set out to make life easier for soldiers and stakeholders to communicate securely." Sat-Com's main offering is software-defined radios: the company's flagship radios are the manpack Leopard and lightweight and portable Cheetah. These are unusual as they offer frequency-hopping communications in the HF, VHF, and UHF bands, doing away with the need to have multiple radios for different frequencies.

"One must always look at what communications pirates are using and what we as maritime police are using," Brown said. "What often happens is you have navies and armies using commercial radio equipment available for everybody" and this is very unsecure. "We of course use more professional communications solutions. With fast frequency hopping, the radio frequency is dispersed. It's hard to realise with

commercial equipment that someone's actually talking. We don't send clear analogue voice – we digitise it. You need sophisticated equipment to know somebody is actually communicating and what are they communicating about. We achieve this through fast frequency hopping (600 hops/second). That's not easy to eavesdrop on. Over and above that we can send data – pictures, images, text messages, position etc. We can do this for land, sea and air from one radio. Having one set is the big differentiator between us and our competitors.”

In addition to its radios, other key products in the Sat-Com range are the Afractal range of amplifiers that cover HF, VHF/UHF and dual (HF, VHF and UHF) frequencies.

**Source:** [defenceweb.co.za](http://defenceweb.co.za); 16 September 2020

## **VIETNAM REASSERTS SOVEREIGNTY OVER EAST SEA ARCHIPELAGOS AFTER US EMBASSY MAP REMOVAL**

- Viet Anh

Vietnam on Thursday reaffirmed its sovereignty after the U.S. Embassy removed from its Facebook page an accurate Vietnamese map including its East Sea archipelagos. "Vietnam has consistently maintained the Hoang Sa (Paracel Islands) and Truong Sa (Spratly Islands) as inseparable parts of the Vietnamese territory. This consistent stance has been taken multiple times in multiple forms, including at the United Nations, and is supported and respected by many countries," Foreign Ministry spokeswoman Le Thi Thu Hang said at a press meet Thursday afternoon. She was asked about Vietnam's reaction to the U.S. Embassy in Hanoi uploading on Facebook a map of Vietnam including the Paracel and Spratly archipelagos on September 9, but later replacing it with an image without them.

The map had been uploaded as part of a post commemorating the opening of the 53rd ASEAN Foreign Ministers' Meeting (AMM 53) and other relevant meetings. Hang reiterated that Vietnam has full legal basis and historical evidence to assert its sovereignty over both archipelagos under international law. Rachael Chen, spokesperson for the U.S. Embassy, said in a statement that the United States does not take a position on the territorial sovereignty claims over land features in the South China Sea. "The United States welcomes recent signs of progress in discussions among Southeast Asian claimant states in their effort to peacefully resolve their disputes in accordance with international law and welcomes ASEAN Leaders' insistence that South China Sea disputes be resolved in line with international law, including UNCLOS," Chen said.

The East Sea is internationally known as the South China Sea. In July, U.S. Ambassador to Vietnam Daniel Kritenbrink said the U.S. would increase diplomatic activities with partners in the region, including ASEAN, help countries improve their maritime capabilities and develop the U.S.'s military capabilities, including activities

to protect freedom of navigation at sea, in order to maintain stability in the South China Sea.

**Source:** [vnexpress.net](http://vnexpress.net); 17 September 2020

## **USCG RELEASES NEW PLAN TO COMBAT ILLEGAL, UNREPORTED, AND UNREGULATED FISHING**

- Seapower Staff

WASHINGTON — The Coast Guard has released a new strategy to enhance global safety, security, and stewardship of the maritime domain by combatting Illegal, Unreported, and Unregulated (IUU) fishing, Coast Guard Headquarters said in a Sept. 17 release. IUU fishing is a collection of dishonest fishing practices, both on the high seas and in areas within national jurisdiction, that threatens global geo-political security and prosperity and weakens rules-based order; especially as the worldwide demand for fish as a protein source continues to grow. It's a huge problem. According to the strategy, one in five fish caught around the world are from IUU, resulting in tens of billions of lost revenue for legal fishers each year.

This IUU Fishing Strategic Outlook announces the Coast Guard's commitment to leading an international effort to combat illegal exploitation of the ocean's fish stocks and protect our national interests. "The Coast Guard's IUU Fishing Strategic Outlook outlines the service's efforts to combat the scourge of IUU fishing over the next decade. We are committed to working with our allies and like-minded partners to strengthen the international fisheries enforcement regime and counter this pervasive threat," said Adm. Karl L. Schultz, Commandant of the Coast Guard. "As a recognized world leader in maritime safety, security and environmental stewardship, the Coast Guard has a responsibility to help build a coalition of partners willing to identify and address IUU fishing bad actors and model responsible global maritime behavior."

The Coast Guard has been the lead agency for at-sea enforcement of living marine resource laws for more than 150 years. The service will continue to lead global efforts to build a multilateral coalition to detect and deter IUU fishing on the high seas and in the exclusive economic zones of partner nations in order to disrupt the corrupt cycle of influence that enables illegal operations.

Working with partners in the National Oceanic Atmospheric Administration, the Department of State, and the Department of Defense, the Coast Guard will advance a whole-of-government effort to promote economic prosperity and drive stability, legitimacy, and order in the maritime domain. Schultz and officials from the Department of Defense, NOAA and the State Department appeared at a prerecorded panel discussion on Sept. 17 about IUU, hosted by the Center for Strategic and International Studies. "It [IUU] really has replaced the focus on counter narcotics, it has replaced the focus on piracy," he said. With that said, he noted the Coast Guard is usually stretched thin, so "this isn't about the Coast Guard being the fish cops across

the globe. This is about synchronizing efforts” with other agencies and allies. Adm. Craig S. Faller, commander of U.S. Southern Command, said he speaks with defense ministers from the Caribbean, South America, Ecuador, Chile and others and “this is in their top three, if not the top. ... This is economics, and it’s threatening their livelihoods.”

Technology can help monitor illegal fishing, along with more information sharing, the officials said. Schultz said a Southcom ship recently helped Ecuador locate a 300-ship Chinese fleet operating just outside of Ecuador’s waters, and which was probably engaging in illegal fishing. Boats from China and Taiwan make up about 60% of all IUU fishing, said Dr. Whitley Saumweber, who moderated the event. “It’s right to focus on China because of their dominance, but we should not forget they are not the only actors in this space,” he said.

**Source:** [seapowermagazine.org](http://seapowermagazine.org); 17 September 2020

## **NIGERIAN AGENCY, AIR FORCE TO DEPLOY ASSETS FOR MARITIME SECURITY**

- APA News

Nigeria’s air assets acquired under the Deep Blue Project, also called the Integrated National Security and Waterways Protection Infrastructure, domiciled with the Nigerian Maritime Administration and Safety Agency (NIMASA) are set for deployment by the Nigerian Air Force in support of the government’s maritime security effort. Nigeria’s Chief of Air Staff, Air Marshal Sadique Abubakar, announced this when the Director-General of NIMASA, Dr. Bashir Jamoh, paid a working visit to the Nigerian Air Force headquarters in Abuja.

The Director General of NIMASA had requested adequate arrangement to receive and deploy the two special mission aircraft expected in the country in the next few months. While commending the leadership of the Nigerian Air Force for its commitment to capacity development, Dr. Jamoh said that NIMASA was committed to ensuring the success of the Deep Blue Project with adequate cooperation from all stakeholders. “We have received two Unmanned Aerial Vehicles (UAV), and the two special mission aircraft are expected to arrive Nigeria before the end of the year. The challenges associated with the COVID-19 pandemic delayed the special training for the personnel to man these air assets, but we have found a way around it. We will continue to seek your partnership to secure the Nigerian maritime domain,” the statement by NIMASA on Thursday quoted Dr. Jamoh as saying.

Dr. Jamoh disclosed that 17 fast interceptor boats, 15 armoured vehicles, and two special mission vessels were some of the land and marine assets already on the ground and that all hands must be on deck to secure the country’s maritime environment and change all negative narratives.

Responding, Air Marshal Abubakar said the NAF had maintained a longstanding cordial relationship with NIMASA, with an MOU on Maritime Air Surveillance and

Intelligence signed in 2013. He said, though, the MOU had elapsed, the NAF had continued to play a crucial role in maritime security, working closely with the Nigerian Navy, and NIMASA. Air Marshal Abubakar disclosed that NAF had recently established a Combat Reconnaissance Group (203 CRG) in Gombe State, primarily, to deal with the security challenges in the North-East and other parts of the North. He said the drones that would be deployed with the 203 CRG could be moved to any part of the country, including coastal locations, especially given the crucial place of the maritime environment to the survival of the country.

“Indeed, we are working towards establishing UAV wings in Lagos, Calabar, and Port Harcourt to support other security agencies in maintaining the security of the maritime environment,” he said. Abubakar assured NIMASA boss that Air Force would do everything in its power to partner with NIMASA on the Deep Blue Project, saying the Federal Government is doing everything humanly possible to secure Nigeria and Nigerians. The Deep Blue Project, also called the Integrated National Security and Waterways Protection Infrastructure, is a maritime security project, which aims to comprehensively tackle insecurity in Nigeria’s territorial waters and Exclusive Economic Zone, up to the Gulf of Guinea.

**Source:** [journalducameroun.com](http://journalducameroun.com); 17 September 2020

# MARITIME FORCES

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## U.S. ADMIRAL TALKS 3RD CHINESE AIRCRAFT CARRIER: ‘GO AHEAD AND BUILD THAT BIG SHIP’

- Sam LaGrone

China’s pursuit of more aircraft carriers validates the U.S. Navy’s commitment to building more American aircraft carriers in the future, the U.S. admiral in charge of providing forces to the fleet said on Thursday.

“Good on ‘em. It makes the argument that carriers are important,” Adm. Chris Grady, commander of U.S. Fleet Forces, said on Thursday. “We have them. They want them and they’re building them.” Grady was responding to reports based off a new analysis on China’s carriers from the Center for Strategic and International Studies’ China Power group. The report gave new details on the People’s Liberation Army Navy’s third aircraft carrier currently under construction outside of Shanghai. Experts predict the so-called Type 002 carrier will feature a catapult launching system that will be able to launch more aircraft with heavier weapons than China’s two existing carriers based on Cold War-era Soviet designs, according to the report. “To me that makes all the sense, they’re a maritime power and they understand the great value that comes from carrier aviation and how that can shape the international environment. It’s taken us over 100 years to get that right,” Grady said during the American Society of Naval Engineers 2020 Fleet Maintenance Modernization Symposium.

“Lot of blood, lot of loss of life, a lot of sweat and tears to make naval aviation work. We’ve got a huge lead and one that will continue to expand into the future. Go ahead and build that big ship, but to build the eco-system that is naval aviation that brings that ship to life – that’s going to take a lot of hard work and time.” Since the first Chinese carrier Liaoning commissioned in 2012, the PLAN has steadily developed a basic naval aviation capability starting with a second-hand Soviet carrier and an air wing based on Shenyang J-15 Flying Shark – a knock-off of the Russian Sukhoi Su-33 fighter. The Chinese reversed engineered the design and commissioned a second carrier, Shandong, in 2019.

Borrowing heavily from U.S. carrier procedures – down to the color of uniforms on the flight deck – the PLA has reached the point where it can deploy two carrier strike groups simultaneously. Earlier this week, the state-controlled Global Times reported both carriers had deployed from their respective homeports for carrier drills. While Beijing has highlighted imagery of the two carriers deployed, the effectiveness of Chinese naval aviation on the first two ships has been questioned. While the ski-jump ramp design can effectively launch combat loaded J-15 fighters, heavier aircraft like airborne early warning planes would not be able to launch from the two carriers, USNI

News reported in 2016. The key feature of the Type 002 is an angled flight deck that would include either a steam or electronically launched catapult launching system like those on the Nimitz and Gerald R. Ford-class, reads the Pentagon's annual report to Congress on Chinese military capabilities. "This design will enable it to support additional fighter aircraft, fixed-wing early-warning aircraft, and more rapid flight operations and thus extend the reach and effectiveness of its carrier based strike aircraft. [China's] second domestically built carrier is projected to be operational by 2024, with additional carriers to follow," reads the study released in August.

The future efficacy of the U.S. carrier force has been a key point of debate as the Navy and the Pentagon map out the future force structure of the service. Last year, the Pentagon proposed shedding a carrier early and divert those savings in a sweeping proposal that would have routed the money to other priorities. Grady's comments come as the Navy and OSD's Integrated Naval Force Structure Assessment, due out in a few weeks, will outline the future of the U.S. carrier fleet. Without giving details, Grady said, "As part of that future force structure, carriers will remain central to what we do."

**Source:** [usni.org](https://www.usni.org); 17 September 2020

## **PACIFIC AIR FORCES CHIEF MUM ON REPORTS US PLANE DISGUISED ITSELF TO SPY ON CHINA**

- Oriana Pawlyk

A top Air Force leader in the Pacific refused to confirm or deny recent reports that a U.S. aircraft disguised itself as a Malaysian plane, allegedly "spoofing" a transponder signal to spy on Chinese military activities. But he said the U.S. didn't break any rules. Popular Mechanics last week reported that an RC-135W Rivet Joint reconnaissance aircraft flying off of China's Hainan island electronically impersonated a Malaysian plane while transiting through the South China Sea. Speaking to reporters during the Air Force Association's virtual Air, Space & Cyber conference Wednesday, Gen. Kenneth Wilsbach, head of Pacific Air Forces, objected to the term "spoofing" and claimed the aircraft was following international rules regarding transponders.

"I know we follow the rules for international airspace, and we were following the rules that day," Wilsbach said. He did not offer additional details on what the Rivet Joint did during the flight. Aircraft spotters with the South China Sea Probing Initiative, a think tank launched by Beijing-based Peking University, reportedly noticed the Rivet Joint from Kadena Air Base, Japan, change its "Mode S" transponder code, which gives pilots more situational awareness in a traffic-heavy sky and transmits aircraft information to a Secondary Surveillance Radar used by air traffic control. To comply with the International Civil Aviation Organization (ICAO), Mode S-equipped planes have a unique "hex code" to identify that particular aircraft.

According to Popular Mechanics, on Sept. 8, the Rivet Joint's Mode S number "suddenly changed" from AEO1CE to 750548. Per the ICAO registration, 750548 is the number "for an unknown Malaysian aircraft," the website said. The alleged move came days after China accused the U.S. of trespassing in what it deems a "no-fly zone" after a U-2 Dragon Lady reconnaissance aircraft was spotted over the Yellow Sea on its north coast. "The trespass severely affected China's normal exercises and training activities, and violated the rules of behavior for air and maritime safety between China and the United States, as well as relevant international practices," Wu Qian, a spokesperson for the Chinese Defense Ministry, told CNN on Aug. 26.

Wilsbach said the flight was not out of the ordinary for how the Air Force conducts its patrols. "We fly the U-2 almost every day, and we particularly look at Russia, China and North Korea with the U-2," he said. "It wasn't necessarily a one-off [incident] in the fact that it was flying in a track that we frequently fly in." Wilsbach said China's claims of a no-fly zone aren't in accordance with international law. While the Air Force was aware of China's restriction, he said it "chose to fly there anyway [because] it was within our rights to do so in international airspace." The U-2, which is capable of flying at 70,000-plus feet, "has some flexibility with the sensors you could put on" with superior intelligence collection systems -- providing multi-spectral imaging of targets to extreme ranges -- as compared to some other intelligence, surveillance and reconnaissance aircraft, he said. Even though the aircraft is more than 60 years old, "it's so reliable," Wilsbach added.

**Source:** [military.com](http://military.com); 17 September 2020

## **CHINESE NAVY ESCORTS INDIAN OIL TANKER IN DANGEROUS WATERS AMID STRAINED TIES**

- Guo Yuandan

The Chinese navy on Saturday successfully escorted an Indian oil tanker carrying 31 Indian crew members to a designated sea area in the Gulf of Aden and received a thank-you note from the tanker's captain, the Global Times learned on Monday. The escort came amid the recently strained diplomatic ties between China and India on the border dispute. The 35th fleet of the Chinese People's Liberation Army (PLA) Navy successfully escorted three foreign merchant ships, including Indian Crude Oil Tanker "MT Desh Gaurav," Panamanian Chemical Tanker "Rabigh Sunshine" and Marshall Islands Bulk Carrier "Pan Clover," to their destinations on Saturday after a two-day journey.

The Desh Gaurav left Ras Gharib port in Egypt, sailed eastward through the Gulf of Aden and returned to Vadinar in India. The ship had a safety capsule but no security personnel on board, forcing them to apply for an escort from the Chinese navy. The Gulf of Aden is known as the most dangerous waters in the world for pirate attacks. Yang Aibin, chief of staff of the escort taskforce, said that the Chinese navy sent guided-missile destroyer Taiyuan to escort foreign ships along the way, and the other two

Chinese vessels Jingzhou and Chaohu were waiting in a certain sea area to provide regional escort for passing ships. "As the captain, this is the second time I have sailed through the Gulf of Aden. A few days ago, when I was sailing westwards, I applied for a Chinese naval escort for the first time, accompanied by the frigate named Jingzhou," the Indian captain told the naval escort translator Cai Lingong. The captain said that although he has never been to China, the Chinese naval escort taskforce has been providing "safe and efficient" escort operations year after year, which are admirable and trustworthy.

Tensions have been high in the China-India border since June, when Chinese and Indian border troops clashed in the Galwan Valley. Qian Feng, director of the research department at the National Strategy Institute of Tsinghua University in Beijing, told the Global Times that the convoy fully demonstrates the magnanimity of the Chinese military toward India, regardless of past rifts and current disputes. It also shows that the scope of China-India ties is broad, not just on the border dispute. The two countries still have a lot of common interests and great space for cooperation, said Qian.

I hope that Indians who see China as a threat will feel the goodwill of the Chinese military at this particular time, and take their political views from the high and cold lands of the Himalayas to the open ocean. Only this way can we understand the true meaning of the saying that "Asia and the world are large enough to accommodate the simultaneous rise of China and India," said Qian. As of Saturday local time, the Chinese naval escort taskforce had completed 1,331 convoy missions of 6,824 ships, 3,557 of which are ships from foreign merchant and international organizations.

**Source:** [globaltimes.cn](http://globaltimes.cn); 14 September 2020

## **PLA OPENS THREE FRONTS IN SOUTH CHINA SEA TO DISTRACT THE WORLD FROM LADAKH**

- Shishir Gupta

Post the military flare-up at Galwan Valley, the People's Liberation Army (PLA) has mobilised four out of five of its military theatre commands with reports suggesting that live firing drills and exercises from the East China Sea, the Yellow Sea to the South China Sea to date were a distraction for its calculated aggression in Ladakh.

While both India and China have still to finalise the dates of military commanders' meeting with each asking for postponement once, PLA is continuing to build-up along the 1,597-km Line of Actual Control (LAC) in the western sector. After the India and China foreign ministers' meeting on September 10 in Moscow, a decision was taken to ask the military commanders to implement the total disengagement and then de-escalation agreement on the ground. The two sides are still to fix a mutually convenient date for the meeting but is expected in this week. It is understood that the meetings at the corps commanders' level will restrict itself to disengagement of forces post-April and the Depsang Bulge issue will be taken up at a separate divisional commanders' level. According to a report in Nikkei Asian Review, PLA has mobilised its Southern

Theatre Command, which oversees the South China Sea, Northern Theatre Command, which oversees Korean Peninsula, and Eastern Theatre Command, which oversees arch-rivals Japan and Taiwan. The newspaper said that just like the Chinese annexed Tibet in 1950s against the backdrop of its intervention in the Korean war, the present mobilisation was a distraction for a real stand-off in the Karakoram-Zaskar ranges of Himalayas. For the Ladakh operations, PLA's western theatre command has been fully mobilized with military districts of Xinjiang and Tibet fully involved in the aggression.

The Korean War in the 1950s also turned out to be a distraction for Jawahar Lal Nehru government and Indian diplomacy as they got involved in sorting out the North Korea issue leaving their own flanks in western and eastern sector open to Chinese military in 1962. PLA chose to attack India in 1962 when the entire world was diverted towards the Cuban missile crisis. While India is engaging China through both military and diplomatic channels to resolve the current stalemate, the military commanders are prepared for the worst on all the borders and at sea. They know that distraction, diversion and deception are part of Chinese information warfare with psychological operations playing the lead role before the flag goes up.

By deploying three military commands against the US from South China to the East China Sea and test firing both DF-26 also called Chinese' Guam Killer and DF-21 D also called the Carrier Killer intermediate-range ballistic missiles in last week of August, the PLA is sending a message that it can take both US on its eastern and India on its western flank. The missile firing was to show-case Chinese capability to taken on the exercising USS Navy's supercarrier Ronald Reagan and Nimitz around the Chinese nuclear submarine base at Hainan Islands in the South China Sea. Maybe the Ladakh incursion is a distraction for Chinese moves on Taiwan after Hong Kong and not the other way around.

**Source:** [hindustantimes.com](http://hindustantimes.com); 20 September 2020

# SHIPPING, PORTS AND OCEAN ECONOMY

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## SRI LANKA NAMES CAPTAIN OF OIL TANKER A SUSPECT IN FIRE

- Bharatha Mallawarachi

COLOMBO, Sri Lanka (AP) — A Sri Lankan magistrate on Thursday ordered the captain of an oil tanker that caught fire off the country's coast to appear in court as authorities seek \$1.8 million from the ship's owner for assistance provided in fighting the blazes. On Wednesday, Attorney General Dappula de Livera directed police to name the Greek captain of the MT New Diamond as a suspect in the fire and produce him before the Magistrate's Court. He was ordered to appear on Sept. 28. The Attorney General's Office said the country is seeking \$1.8 million from the ship's owner for the help given to the vessel since Sept. 3, when the first fire broke out.

It includes services provided by the Sri Lankan navy, air force, ports authority and Marine Environment Protection Authority, said Nishara Jayaratne, the coordinating officer in the Attorney General's department. She said the claim has been submitted to the ship's owner and a separate claim will be presented for damage caused to the environment after studies are complete. Greece-based Porto Emporios Shipping Inc. is the registered owner of the 20-year-old vessel. The ship, which was carrying nearly 2 million barrels of crude oil, was damaged off Sri Lanka's east coast by two fires over a week.

Sri Lankan and Indian ships and aircraft took part in extinguishing the fires. The second blaze was doused last week. Since then, experts have been working to salvage the ship, which remains in Sri Lankan waters. The tanker was transporting crude oil from the port of Mina Al Ahmadi in Kuwait to the Indian port of Paradip, where the state-owned Indian Oil Corp. has a refinery. The initial fire killed one Filipino crew member and injured another, while 21 other crew members escaped uninjured.

**Source:** [yourvalley.net](http://yourvalley.net); 17 September 2020

# **PAPUA NEW GUINEA COULD SEE MORE THAN K2.5 BILLION FROM REGIONAL INFRASTRUCTURE FUNDS**

- Paul Chai

Papua New Guinea is badly in need of working infrastructure from telecommunications to ports, from roads to power, but with a constrained government budget the question is: how is it going to pay for it? One way is to look to its international partners such as the Australian Infrastructure Financing Facility for the Pacific (AIFFP), a recently created A\$2 billion (K5.5 billion) fund set up as part of Australia's Step-Up Pacific program. Benedict David, Head of the AIFFP, said that the facility is keen to align itself with the priorities of PNG's government.

'We have board approval for our investment in Markham Valley Solar,' he said. 'That is part of the broader commitment to the PNG Electrification Partnership that was agreed in 2018. We are investing in a large-scale solar farm. 'Also, we have recent approval of finance for the Tina River transmission line project as part of the Tina River Hydropower Project in the Solomon Islands.' David added that the impact of COVID-19 has seen some leeway with how the fund is allocated as well as a focus on 'local projects that drive local employment – for example, road maintenance – where we can provide quick turnaround finance for projects that drive and maximise local contractors and local employment.'

## **Lending facility**

Talking figures, the AIFFP's Chief Investment Officer Robert Jauncey said the facility is 'primarily a lending facility' that has taken a while to get its project pipeline up and running. But he added that the Markham Valley Solar Farm was a great start. Construction for the project, which will connect to the Ramu electricity grid which supplies Lae, Madang and the Highlands, is expected to commence in 2021. The AIFFP's funding will be provided through PNG Power.

'Looking forward, I am confident that AIFFP might be able seek approval from the government for A\$300 million in new investments by the end of this fiscal year, Jauncey said. 'If we are able to do that, that would make us the second largest financier for Pacific Governments after the Asian Development Bank (ADB).'

He added that A\$250 million (K636 million) was committed to the PNG Electrification Partnership, and the facility was looking at national building investment. like the Trans-Island Highway, and that they were willing to work with Timor-Leste with the development of an undersea cable. But PNG has the potential to see a lot of the fund go its way. 'We have indicated to the PNG government that, should they want it, we could be talking in the vicinity of approximately half [the A\$2 billion fund],' Jauncey said. 'If they are able to prepare investable projects.'

## **Roads to recovery**

The Asian Development Bank is continuing its support for PNG's infrastructure. David Hill, the ADB's PNG Country Director, told the webinar that the bank has had some success this year working with the Department of Works on a new US\$31 million (K108 million) Transport Sector Preparatory Project. This facility has been created to help PNG's government get infrastructure projects up and running, avoiding a common delay between the announcement of a project and the procurement and commencement.

One of the key projects being considered under this facility is the long-awaited road to connect PNG's north and south coast, including Lae and Port Moresby. Hill said the route is not yet fixed. 'A key piece of doing this road is going to be the land acquisition. That will have to be sorted out in the first instance. Additionally, in the Highlands region, we would like to expand the Highlands Highway west to Mt Hagan and those feeder roads into the Highlands Highway.' Another focus will be the 1500 km northern region road corridor from the Indonesia–PNG border through Vanimo, Wewak, Madang, and Lae with the Highlands highway and southern region corridor.

Hill said these projects mark an additional investment to the currently announced US\$400 million (upgrade of the Highlands Highway due to 'great demand to extend the Highlands Highway west'.

**Source:** [businessadvantagepng.com](https://businessadvantagepng.com); 21 September 2020

# **SHIPPING IN THE CROSSHAIRS OF US SANCTIONS**

- Barry Parker

Sanctions on trade have become a critical component in the toolkit of US foreign policy professionals, with the shipping business, at all levels, increasingly caught in the crosshairs.

The law firm Watson Farley Williams (WFW), a specialist in maritime law, in the first of a seven part series that will be examining how sanctions are applied to the maritime community, notes that: "The Trump Administration has dramatically expanded the use of secondary sanctions, re-imposing sanctions on Iran and targeting North Korea, Russia, Venezuela, Syria, terrorism and Hong Kong."

WFW explains that, while primary sanctions are aimed mainly at US entities, which encompass the major international banks- handling money transfers, "secondary sanctions" are aimed at certain industries in countries targeted by the sanctions, for example oil and gas trades. They add that: "They generally apply by threatening non-US persons with various levels of exclusion from the US and US markets (e.g. inability to import US goods) if they engage in the specified targeted activities."

The sanctions web has clearly broadened in recent months, with implications for maritime companies. The law firm Seward & Kissel (S&K), active in maritime and financial markets, noted that, in early September: “the US Department of State sanctioned several companies and individuals involved in the sale of Iranian petrochemical products,” saying that: “the sanctions come as the US has continued its maximum pressure campaign against Iran.” S & K was offering a series of online presentations on sanctions, through its Simply Speaking Series.

The bad guys have been crafty, turning off AIS transmitters and transshipping cargoes loaded in sanctioned areas- and, recently, the US regulators have tried to catch up. Earlier this year, the Office of Foreign Asset Control (OFAC) issued guidelines specifically for the maritime industry and expanded the compliance envelope outwards by urging that providers of services to the maritime industry, which could be financiers of trade flows, but also vessel registries and even shipbrokers, conduct “due diligence” before entering into transactions or business relationships.

In the petrochemical deals, linked to Triliance- already sanctioned (since January 2020), compliance was evaded through front companies, which the US agency describes as: “knowingly engaged in a significant transaction for the purchase, acquisition, sale, transport, or marketing of petroleum or petroleum products from Iran.” Maritime entities added to the OFAC’s list of sanctioned entities in early September, in the aftermath of the Triliance deal, include Sino Energy Shipping Hong Kong Ltd. and Zhihang Ship Management Co. Ltd. The most recent maritime-related wrinkle has concerned Hong Kong; in the firm’s Simply Speaking series, S & K sanctions lawyer Andrew Jacobson explained, in an online interview, “The US has imposed a new Hong Kong related sanctions regime.”

In the same video interview, discussing the importance of lenders undertaking due diligence on borrowers generally, Jacobson referred explicitly to AIS, saying: “Lenders can use AIS tracking to determine where a borrower’s vessels have called recently.” In early September, lawyers at WFW, with its New York based sanctions team led by Daniel Pilarski, wrote in a website article that: “On August 19, 2020, the US Department of State notified Hong Kong authorities of the suspension or termination of the shipping tax treaty between the US and Hong Kong (the “Shipping Tax Treaty”).” Much of the WFW memo concerns the elimination of tax exemptions with countries that have reciprocal tax exemptions- meaning that companies organized in Hong Kong “may be subject to the 2% US gross freight tax on voyages to or from the US (or in certain cases, to US net income tax at ordinary rates).”

**Source:** [seatrade-maritime.com](https://seatrade-maritime.com); 21 September 2020

## **AUSTRALIA BANS FIFTH SHIP IN 2020 FROM PORTS FOR CREW WELFARE ISSUES**

Australia is continuing its inspection and enforcement actions against ships sailing in its waters with the penalty of banning ships from its ports as an incentive to ensure fair treatment of seafarers. In 2020, the Australian Maritime Safety Authority (AMSA) has banned five vessels from its waters bring to 20 the number of commercial vessels banned from Australian ports for anything ranging from three to 18 months over the past six years. In the most recent incident, AMSA announced today that it is banning a Panama-flagged bulk carrier for 12 months due to, “deliberately underpaying its crew.” AMSA General Manager Operations Allan Schwartz was quoted as saying, “This is the fourth ship that we have banned this year for serious and shameful breaches of the Maritime Labour Convention.” AMSA reported that its investigators aboard the AC Sesoda in Queensland, Australia on September 10, 2020, to investigate allegations about underpayment. During the investigation, AMSA reported that evidence was collected which confirmed that a number of crew had only been paid half of their wages since October 2019. AMSA reported that it believed the crew was due more than A\$118,000 (approximately US \$86,000).

“The ship’s master and operator attempted to conceal the underpayment from inspectors by only producing a fabricated wage record which indicated that these seafarers had been paid in full,” AMSA said in its statement. “A second wage record showed that these seafarers had in fact been deliberately underpaid, while some senior members of the crew had been paid above their agreed rates.” The ship was reportedly detained in Australia for nearly a week, until AMSA received evidence that the crew had been paid the outstanding wages and that a rectification action plan had been developed to ensure the same failure did not reoccur. The vessel was released from detention and issued a 12-month ban prohibiting it from entering an Australian port. “It’s hard to believe that some operators still think that it is acceptable to underpay their seafarers. AMSA will not tolerate such deliberate and deceitful mistreatment of seafarers on ships that sail in Australian waters,” said Schwartz. “AMSA has made its position abundantly clear that we have a zero tolerance for the underpayment of crew.”

During the past few months, AMSA reported three other instances where ships arriving in Australia waters were either not properly paying their crew or had other welfare violations. In total, they report recovering more than A\$290,000 (approximately US\$212,000).

“We are sending a simple message to operators,” said Schwartz. “Pay your crew properly, treat them respectfully, and comply with the requirements of the Maritime Labour Convention or you will not be welcome in Australia.” He speculates that the financial and reputational impact of being banned from Australia far exceeds the cost of paying seafarers the money that they have rightfully earned.

**Source:** [maritime-executive.com](https://www.maritime-executive.com); 17 September 2020

# SET SAIL SAFELY ACT INTRODUCED TO REOPEN CRUISE INDUSTRY

- Doug Parker

On Wednesday afternoon, Florida Senators Rick Scott and Marco Rubio introduced a bill aimed to get cruise ships sailing again. The duo rolled out the Set Sail Safely Act, which would establish a Maritime Task Force, in coordination with a private-sector advisory committee to address health, safety, security, and logistical changes to allow cruise lines to resume sailing and ports to remain operational.

## The Set Sail Safely Act Would

- Require the proper federal agencies, led by the U.S. Department of Homeland Security, to work together with input from private sector stakeholders to develop a plan for the safe resumption of cruise line operations.
- The Maritime Task Force would include representatives from several federal agencies, including the U.S. Department of Homeland Security, Customs and Border Protection, U.S. Coast Guard, Health and Human Services, Department of Transportation, Department of State and the Federal Maritime Commission.
- Private Sector stakeholders would include representatives from the passenger cruise line industry, U.S. ports, commercial fishermen, small businesses and health professionals.
- Create a timeline for meetings of the Task Force, recommendations, and implementation of the Task Force's recommendations.

The cruise industry supports nearly a half-million jobs in the United States, with 150,000 in Florida alone. Also supporting the bill is Adam Goldstein from CLIA Global (Cruise Line International Association), Christopher Connor with the American Association of Ports, Doug Wheeler of the Florida Ports Council, Miami-Dade County Mayor Carlos Gimenez, and Rebeca Sosa with Miami-Dade Tourism and the Ports Committee. Senator Rick Scott said, "Florida is a tourism state with thousands of jobs relying on the success of our ports, cruise lines and maritime industries. Over the past few months, I've had many conversations with leaders at Florida ports, federal agencies, and within the cruise industry about how to ensure the safety of passengers and employees." Currently, the U.S. Centers for Disease Control and Prevention have a No Sail Order placed on cruise ships that sail from North America until September 30, 2020. Industry trade group CLIA has voluntarily suspended cruises for its member cruise lines until October 31, 2020. For now, the two looming questions are: how long will this bill take to get passed, and will this act bypass the CDC's control over returning to service?

**Source:** [cruiseradio.net](http://cruiseradio.net); 17 September 2020

## **WORLD'S FIRST CNG TERMINAL TO COME UP IN GUJARAT'S BHAVNAGAR**

Gandhinagar Sep 15 (IANS): The Gujarat Chief Minister Vijay Rupani on Tuesday said Bhavnagar will become the first Compressed Natural Gas (CNG) terminal in the world, as the government has given its sanction to the Rs 1,900 crore brownfield project.

The terminal will have a capacity of 15 lakh tons annually.

He said the state government has given the sanction and the Rs 1,900 crore project and will be developed by a Consortium of developers, including the Padmanabh Mafatlal Group and one from the Netherlands. According to the information given by the government, Rs 1,300 will be invested in the first phase of the brownfield port project. The project is a part of an ambitious mega project of developing Bhavnagar, where a liquid cargo terminal having a capacity of 45 lakh Container and White cargo terminal and RO RO ferry services terminal, would be developed. To develop this terminal, dredging and construction of two lock gates will be carried out in the channel and port basin. Infrastructural facilities will be set up on the shore for CNG transportation. Due to the project, Bhavnagar port's annual cargo capacity will be raised to nine million metric tons (MMT).

The Chief Minister informed that Gujarat will be the only state in the country, which will have terminals for both CNG and LNG (with LNG terminals at Dahej and Hazira). According to the state government, the project will create vast employment opportunities for Bhavnagar and adjoining area youth in logistics, transportation and warehousing.

**Source:** [daijiworld.com](http://daijiworld.com); 15 September 2020

# MARINE ENVIRONMENT

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## OIL DRILLERS MOVE INTO ARCTIC WATERS BADLY AFFECTED BY CLIMATE CHANGE

- Atle Staalesen

Oil reserves and natural gas in abundance. The Ob Bay and surrounding peninsulas of Yamal and Gydan is like a vast bubble of hydrocarbons waiting to be untapped. This is now a top priority region for the Russian oil and gas industry. From before, Gazprom and Novatek have opened large projects like the Bovanenkovo and Yamal LNG in the Yamal Peninsula, and the same two companies are in the process of developing several more projects like the Kharasavey and Arctic LNG 2.

### **Offshore drilling**

Also offshore resources are being explored. Over the last years, offshore drilling has been conducted in the nearby Kara Sea, including in the Leningradskoye, Skuratovskoye, Rusanvoskoye and Nyarmeyskoye fields. Also Rosneft is in full swing. Company leader Igor Sechin in late August confirmed that he has two rigs engaged in the waters outside archipelago Novaya Zemlya. Well drilling at the Vikulovskaya and Ragozinskaya started on the 22 July and is conducted by two rigs that have been towed to site from Murmansk, Sechin told President Putin in a meeting. From before, it is known that that the Chinese rigs Xin Guang Hua and Nan Hai Ba Hao are operating in the area in cooperation with Gazprom.

### **Gulf of Ob**

Well drilling in the Gulf of Ob is not a new thing. Oil companies have for years comprehensively studied the shallow waters that connect the Ob River with the Kara Sea, and in 2019 a rig drilled wells at the Severo-Obskoye and Geofysicheskoye license areas. Both fields are planned to become key parts of Novatek's resource basis for new projects, including the Arctic LNG 1. The drilling was conducted by the Amazon, a rig owned by Gazprom Flot. This year, the Amazon, as well as the Arkticheskaya, are undergoing upgrade and modernization in Murmansk. But exploration in the area is still proceeding.

### **Arctic LNG 1**

According to the Marine Research Center, a unit of the Moscow State University, a public hearing on additional drilling at the Geofysicheskoye field is held in September this year. Following drilling in 2019, geologists increased resource estimates for the Geofysicheskoye to 413 billion cubic meters, newspaper Kommersant reports. The resources are planned applied in the Arctic LNG 1 project along with resources from nearby fields like the Gydanskoye, Soletsko-Khanaveyskoye, Trekhburnoye and Bukharinskoye. The Geofysicheskoye is located partly on shore, partly offshore.

## **Platform under construction**

Among the offshore projects that are first in the line is the Kamennomysskoye-More, where production is to be launched in year 2025. A production platform is under construction in Astrakhan and is to be towed more than 4,000 km on Russian rivers to Kaliningrad for completion before 2024. The platform will be the second offshore platform on the Russian northern shelf. From before, only the Prirazlomnaya oil platform is in operation in the Pechora Sea. The Kamenno-Mysskoye field is operated by Gazprom and holds about 550 billion cubic meters of natural gas.

## **Semakovskoye field**

In the making is also the Semakovsky project, a field developed by Gazprom together with company RusGazDobycha. The companies in June this year announced that a final investment decision had been made and that the field is to come into production in 2022. The field holds about 320 billion cubic meters and the first of 17 wells are to be developed in the course of 2020, according to the companies. Like the Geofysicheskoye, also the Semakovskoye field is located partly on shore, partly offshore.

## **Strained ecosystem**

The massive field development in the remote bay is putting significant industrial pressure on local vulnerable ecosystems. Researchers warn that the massive ongoing dredging conducted to open the waters for bigger ships ultimately could ruin the rare local fish stocks.

## **Rapid warming**

The Ob Bay and adjacent peninsulas of Yamal, Gydan and Taymyr are among the areas in the Arctic that is experiencing the most rapid increase in temperatures. Figures from the Russian meteorological service Roshydromet show that parts of the region in the summer of 2020 were more than 5°C above normal. That follows several years of dramatic warming. According to the climate researchers, average winter temperatures along the Northern Sea Route, the waters located along the country's Arctic coast, have increased by about 5 degrees since the 1990s. And the warming is most significant in the areas around the Kara Sea, the latest climate report from the institute reads. Among the consequences is a rapid sea-ice melting that is ultimately leading to easier access for ships and drilling platforms. Oil companies appear ready to rush to the remote region to tap into the vast reserves. They are in a hurry. In several of their key export markets, demand for oil and gas is in rapid decline.

**Source:** [barentsobserver.com](http://barentsobserver.com); 17 September 2020

# **INDIAN NAVY DEVELOPS MUMBAI'S LARGEST MIYAWAKI URBAN FOREST**

- Green Yatra

A 2,500 square (sq) metres (m), or 0.6-acre, of barren patch in Malad in Mumbai has transformed into a mini urban forest with seven to nine feet (ft) trees in less than nine months. Between January and September, the Indian Navy, along with environment group Green Yatra, developed Mumbai's largest dense plantation to date by using the Miyawaki technique (see box) on a plot in front of the main campus of Indian Navy Station (INS) at Hamla in Marve-Malad.

Forests grown under the Miyawaki method – developed by Japanese botanist and plant ecology expert Dr. Akira Miyawaki – have improved carbon-dioxide absorption, have reduced noise and dust, and added more green surface area, as compared to monoculture plantation. Plants grow 10 times faster and 30 times denser than traditional techniques, with any average plantation area supporting 45 saplings across 150 square ft. At INS Hamla, 10,500 saplings of 40 different native species were planted in phases between January 18 and February 27.

“The forest is flourishing under our care, and the plants have grown nine-ft tall with almost 100% survival rate. The location of the forest within the boundaries of the base provides protection to the plants, which are expected to become self-sustaining within a year,” said Captain Sridhar Warriar, chief public relations officer (CPRO), Southern Naval Command. According to Green Yatra, the entire plantation process – prior to January – took 2,400 labour hours and 440 machines, including excavators and dumpers, and involved excavating the bed area for the three-ft-deep plantations. The process included laying 200 dumpers worth of soil such as 165 tonnes of black soil and biomass, manual stone removal, levelling the land, developing a one-ft-high bed mount, making pathways and channels to supply six litres of water per metre square, and planting 10,500 saplings in two phases with each at least two-years-old. The plantation method using this technique focuses on density, said Pradeep Tripathi, founder, Green Yatra.

“This is against the average plantation density of three to five plants per sq m depending on the site. Plantations at INS Hamla were four plants per sq m since the site is very close to the coast and there is high wind speed. Also, saplings support each other's growth and prevent sunlight from reaching the ground halting the growth of unnecessary weeds,” he said. Fixing support sticks to each plant, remulching, and sprinkling microbes and boosters for proper plant development are an integral part of post-plantation maintenance. “Whenever there was any water shortage, the navy supported us with their own resources. We have had an overall survival rate of 98.5%,” said Tripathi. Native trees included a combination of deciduous and evergreen fruiting tree species such as amla, neem, mahua, kokam, mango, silk cotton, banyan, and pride of India. Around 40 species were divided into four layers, including 18 tree species, 12 sub-trees, four canopy species, and six shrubs up to three ft in size. Captain Warriar said a similar plantation drive – of 15,000 more saplings by next February -- was in the works known as the Miyawaki phase II, which would be located near the same site. “The first phase was funded by DCB Bank. This method of indigenous forest by native trees produces rich, dense and efficient protective forest in 20 to 30 years, while natural succession will need 200 years,” he said. Experts said such plantations were welcome for urban environments that are fast losing green cover but do not match the complex forest ecosystem. “These techniques cannot be substituted for natural forest, which represent the non-artificial cycle of carbon, oxygen, minerals and biodiversity,

and cannot be replicated by artificial means. For urban spaces, these small green zones may have limited benefits such as reduction of particulate matter, improved oxygen supply, and minimal micro-climatic changes. However, these urban greening concepts cannot be undermined as there is hardly any land available amid the concrete expanse in major cities in the country,” said Dr. Subhash Ashutosh, director-general (D-G), Forest Survey of India (FSI), Dehradun.

### **STATUS OF MIYAWAKI PLANTATIONS IN MUMBAI**

Praveen Pardeshi, former commissioner of the Brihanmumbai Municipal Corporation (BMC), had last year proposed to plant 377,416 trees under the Miyawaki project at a cost of Rs 35 crore across 100 locations spread over 31 acres in Mumbai. “Our intention was to have half of the recreational areas of every layout should be a Miyawaki forest. Among the 100 locations, plots in Malad, Colaba, Worli and Priyadarshini Park have yielded good results. The idea is to transfer the cost of greening not just to the public exchequer but also the Mumbaikars gaining the most. The security of these plantations is also automatically protected,” said Pardeshi. Besides BMC’s efforts, five major plantations across the Mumbai Metropolitan Region (MMR) have been completed by Green Yatra. The following are the projects:

- Central Railside Warehouse Company Ltd, Jogeshwari, area 2,300 sq. m, ,7000 plants, 40 species completed in three phases
- Bhandup Complex, area: 1,200 sq. m, 3,500 plants with 46 species
- State Reserve Police Force Premises in Taloja, Navi Mumbai, area: 700 sq m, 2,000 plants with 40 species
- Ambernath, area: 100 sq. m, 320 plants with 40 species
- INS Hamla, area: 2,500 sq. m, 10,500 plants in phase I with 40 species and another 15,000 plants proposed in phase II in February, 2021.

### **100 YEAR OLD FORESTS IN 10 YEARS**

With over 3,000-odd urban mini-forests created using the Miyawaki plantation technique, which can accommodate 12,000 saplings in one-acre land, can increase the number of trees per person within Mumbai through native tree plantation within a brief span of time.

The features of this technique include:

- 10 times faster growth
- 30 times denser than traditional plantations
- More biodiverse
- Better noise and dust reduction
- 30 times better carbon dioxide absorption
- Native and organic

**Source:** [hindustantimes.com](http://hindustantimes.com); 17 September 2020

# CLIMATE CHANGE: EARTHQUAKE 'HACK' REVEALS SCALE OF OCEAN WARMING

- Matt McGrath

Scientists have found a clever new way of measuring ocean warming, using sound waves from undersea earthquakes. The researchers say the "hack" works because sound travels faster in warmer water. The team looked at sonic data from the Indian Ocean emitted by tremors over a 10-year period. As the seas have warmed due to global heating, the scientists have seen the sound waves increase in speed. Their new method shows the decadal warming trend in the Indian Ocean was far higher than previous estimates. Having accurate information on the warming of our oceans is critical for climate scientists. They understand that around 90% of the energy trapped in our atmosphere by greenhouse gases is absorbed by the seas. But having precise temperature measurements, in multiple locations and depths, is a huge challenge. The deployment of around 4,000 autonomous devices called Argo floats that capture temperature information has helped enormously, but there are big gaps in our knowledge. This is especially true in relation to what's happening in the waters deeper than 2,000m. But now a team of researchers has developed a very different approach that exploits the fact that the speed of sound in seawater depends on temperature. The idea was first proposed and trialled in the late 1970s using sound waves generated by scientists.

However, concerns over the impact of these sounds on marine mammals and rising costs saw the idea abandoned. The new approach involves using the naturally produced sound waves that occur when an underwater earthquake strikes. The scientists examined data from over 4,000 tremors that occurred in the Indian Ocean between 2004 and 2016. The team then looked for pairs of "repeaters", earthquakes with almost identical origins and power. By measuring how long these slow-moving signals took to travel across the waters from Indonesia to a monitoring station on the island of Diego Garcia, they were able to work out the changes in temperature for the whole of the ocean over the 10-year period. "It takes sound waves about half an hour to travel from Sumatra to Diego Garcia," lead author Dr Wenbo Wu from the California Institute of Technology told BBC News. "The temperature change of the deep ocean between Sumatra and Diego Garcia causes this half-hour travel time to vary by a few tenths of a second.

"Because we can measure these variations very accurately, we can infer the small changes in the average temperature of the deep ocean, in this case about a tenth of a degree." The author says the system has some major advantages, as it is able to provide a large-scale average temperature along the 3,000km path from Sumatra to Diego Garcia, which reduces the influence of local fluctuations, essentially making it more accurate over the ocean as a whole. The method is also quite cheap, as it uses data that's already being gathered, and is sensitive to temperatures deeper than the current restriction of 2,000m. In their research, the scientists showed that warming in the Indian Ocean over the decade that they studied was greater than previously estimated. However, the paper has some important caveats. "It is important to emphasise that

this is a result that applies to this particular region and this particular decade," said Dr Wu. "We need to apply our method in many more regions and over different time frames to evaluate whether there is any systematic under- or over-estimation of the deep-ocean trend globally. "It is much too early to draw any conclusions in this direction." To make the idea work on a global scale, the scientists will need access to more underwater receivers.

Right now, the research team is working with data collected by a hydrophone network operated by the United Nations Comprehensive Nuclear-Test-Ban Treaty Organization, which is listening for underwater nuclear explosions. These hydrophones pick up signals from many of the 10,000 shallow submarine earthquakes that occur globally every year, explained Dr Wu. "All this data contains information on the temperature change of the deep ocean — it is just waiting for us to extract it."

*The study has been published in the journal Science.*

**Source:** [bbc.com](https://www.bbc.com); 17 September 2020

# GEOPOLITICS

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## U.S. DEPARTMENT OF ENERGY ANNOUNCES ESTABLISHMENT OF OFFICE OF ARCTIC ENERGY

WASHINGTON, D.C. – Today, U.S. Secretary of Energy Dan Brouillette joined Senate Energy and Natural Resources Committee Chairman Lisa Murkowski in announcing the reestablishment of the Department of Energy’s (DOE) Arctic Energy Office (AEO), which will be located on the campus of the University of Alaska, Fairbanks.

The AEO will drive coordination and collaboration on DOE’s many activities in the Arctic region including: international cooperation on Arctic issues, research on methane hydrates, and development of advanced micro grids and nuclear power systems, such as small modular reactors. Reestablishing the office fulfills Secretary Brouillette’s commitment to do so by the close of this fiscal year. “The United States is an Arctic nation, and the region continues to play an essential role in meeting our Nation’s energy needs, as well as those of our friends and allies,” said Secretary Brouillette. “DOE’s Arctic Energy Office will grow to strengthen and coordinate our work in energy, science, and national security and help build an Arctic future of prosperity and increased opportunity.”

“The reestablishment of the Arctic Energy Office will bring the power of DOE innovation and expertise to the region, ensuring we play an important role in its energy future,” said Deputy Secretary Mark W. Menezes. “As the region’s geopolitical importance increases, the Office will also better facilitate strategic coordination with our fellow Arctic nations.”

“The United States is an Arctic nation because of Alaska, and the reestablishment of the Arctic Energy Office in Fairbanks will ensure greater collaboration between our state’s innovators and the Department of Energy’s cutting-edge researchers,” said Senator Lisa Murkowski, Chairman of the Senate Energy and Natural Resources Committee. “I prioritized this office in the Appropriations process because I know it will help facilitate the development of new energy technologies that benefit resource-rich Alaska and the country. I thank Secretary Brouillette, Deputy Secretary Menezes and their teams for working with us to reestablish this important office.”

“The reestablishment of the Arctic Energy Office in Fairbanks underscores Congress’ and the Trump Administration’s increasing attention to the Arctic and Alaska’s central role in securing our energy, economic, and national security interests in the region,” said Senator Sullivan. “I commend Secretary Brouillette and Senator Murkowski for their work to bring this important institution back to life, and I look forward to the vital scientific research and coordination that will serve Alaskans, the nation, and our global partners as a result.”

“Alaska’s climate is unlike any other in our nation, making our state a critical hub for research on sustainability in harsh environments,” said Congressman Don Young. “I have been a long-time supporter of Alaska’s Cold Climate Housing Research Center, and have seen their important work for resilient housing first-hand. Having lived around the Arctic Circle, I can tell you that innovation is key for survival in challenging areas. Continuing this work will be essential to developing new energy technologies and ensuring that Alaska leads the way in their deployment. I want to thank Secretary Brouillette, Deputy Secretary Menezes, and the Trump Administration for their commitment to these critical operations and recognizing the important role Alaskans play in this field.”

“The Arctic Energy Office’s focus aligns well with UAF’s academic and scientific expertise,” said UAF Chancellor Dan White. “Our deep regional knowledge and international partnerships make UAF a strong partner in advancing America’s security and prosperity by addressing the challenges in the Arctic. I look forward to welcoming the Arctic Energy Office to the UAF Troth Yeddha’ campus in Fairbanks.” Consistent with DOE’s overall mission, the AEO will focus on energy, science, and national security. Rather than belonging to a particular program area, the AEO will report to the Under Secretary of Energy, and coordinate DOE’s Arctic activities across the enterprise, bringing together DOE’s wide range of assets, stakeholders, and equities to serve communities and U.S. interests in the region.

The Office will be reestablished with three interim staff equipped with a wealth of experience across the energy, science, and national security spheres, and grow in service to the Department and the Nation.

**Source:** [energy.gov](https://www.energy.gov); 17 September 2020

## **ASEAN, BEIJING RESUMED MEETING ON SOUTH CHINA SEA CODE OF CONDUCT — CHINESE EMBASSY**

- Eimor Santos

Metro Manila (CNN Philippines, September 17) — The Association of Southeast Asian Nations and China have reopened the talks for a Code of Conduct in the South China Sea, putting an end to the stalemate caused by the coronavirus pandemic. “Under the joint efforts of China and ASEAN countries, especially the Philippines as the Coordinator of China-ASEAN Dialogue Relations and co-chair of the COC consultations, we have resumed the working group meeting on COC through an on-line video conference on September 3,” the Chinese Embassy in Manila announced in a statement on Thursday.

It said both sides “are trying to make up for the time lost” after meetings were disrupted by restrictions imposed by countries to arrest the spread of the coronavirus disease. The novel coronavirus has now infected millions worldwide after it was discovered in Wuhan, China in December 2019. The Code of Conduct was among the

issues discussed in the virtual ASEAN-China Ministerial Meeting led by Philippine Foreign Affairs Secretary Teodoro “Teddy Boy” Locsin, Jr. and his Chinese counterpart Wang Yi. Locsin said he pushed for progress in the Code of Conduct, which will determine the only allowable actions countries can take in contested areas of the South China Sea. The first reading of the single draft negotiating text was done last year and the second reading has also begun, Locsin said. He committed to start with the third reading before turning over the coordinatorship to Myanmar in 2021.

### **'Resist interference to push talks forward'**

China welcomed Locsin’s statement but took a swipe at a “certain country outside the region” for interfering in the negotiations and in the maritime dispute. While it did not mention the United States, Chinese officials have previously accused the US of stirring up trouble between ASEAN states and China. Beijing insists on owning almost the entire South China Sea, including areas that are part of Manila's exclusive economic zone in the West Philippine Sea. Other ASEAN countries such as Vietnam, Malaysia, and Brunei also claim parts of the resource-rich waters. The US conducts freedom of navigation operations and rejects China's "unlawful" claim to the global waterway.

In a separate video conference last week, US Secretary of State Mike Pompeo called on the 10-member ASEAN to stand up against Beijing’s “aggressive actions” and cease doing business with Chinese companies that Washington had blacklisted for involvement in illegal activities in the South China Sea. China criticized the move of the United States and thanked the Philippines for not following through with the sanctions. “How to resist the interference is crucial for pushing forward the future consultations of COC,” the Chinese Embassy said. “China is sincere in its attitude and firm in resolve,” it added, noting that it was Chinese Premier Li Keqiang who proposed the three-year timeline to come up with a code by 2021 – which was later adopted by the ASEAN.

### **Locsin pushes for COC approved by 'rest of the world'**

China expressed confidence that the code will be completed at the earliest possible time to ensure peace and stability in the region. In a tweet responding to this statement from China, Locsin said, “China has my word on that and it will be a COC with which the rest of the world will be totally comfortable, friends and enemies alike.” ASEAN has been pushing for a legally binding Code of Conduct for decades but critics have pointed out that progress has been slow due to resistance from Beijing. In September 2019, Locsin announced that a draft has been reached after Beijing “softened its insistence on controversial provisions” – which earlier delayed the passage of the accord.

China rejects the Philippines' arbitration win wherein an international tribunal in The Hague recognized Manila’s sovereign rights in areas within its exclusive economic zone that Beijing contests. However, both sides said they “agree to disagree” on the landmark decision to pursue cooperation.

**Source:** [cnnphilippines.com](https://cnnphilippines.com); 17 September 2020

# **EXPLAINED: THE NATURE OF THE CYBER SECURITY THREAT FROM CHINA**

- Manraj Grewal Sharma

The Indian Express's 'China is Watching' investigation has spotlighted an elaborate operation by a Shenzhen-based technology company with links to the government in Beijing and the Chinese Communist Party, to keep tabs on a very large number of individuals and entities in India. The company, Zhenhua Data Information Technology Co. Limited, calls itself a pioneer in using big data for "hybrid warfare" and the "great rejuvenation of the Chinese nation" China's authoritarian government, ruling party, military, and many private companies frequently operate as a giant, coordinated operation, of which countries around the world are targets.

## **When did China's People's Liberation Army (PLA) step into the field of cyber warfare?**

It was soon after the Gulf War of 1991 that the Chinese realised that the days of conventional warfare were rapidly coming to an end. Pavithran Rajan, a former Indian Army officer and information warfare expert, who has authored 'Engaging China: Indian Interests in the Information Age', says the Chinese understood that American technology was far ahead of them. "They analysed that if they get into the ICT (information and communications technology), they could leapfrog a couple of generations and get ahead. This decision also coincided with China turning into the electronics factory of the world. In 2003, the Central Committee of the Chinese Communist Party and China's Central Military Commission officially approved the concept of "Three Warfares", comprising psychological, media, and legal warfare. "It was then decided at the highest levels that the PLA should be an army ready to fight a war in the information domain by 2020," Pavithran said. Soon, the PLA began to set up intelligence units dedicated to cyber operations.

## **When did the world discover the PLA's commitment to cyber warfare?**

In February 2013, the Alexandria, Virginia-headquartered American cyber security firm Mandiant published a report that blew the lid off China's cyber espionage operations. The Mandiant report documented evidence of cyber attacks by PLA Unit 61398, whose exact location and address in Pudong, Shanghai, the report revealed. Unit 61398 is the 'Military unit Cover Designator' (MuCD) of the PLA's Advanced Persistent Threat (APT) unit that has been accused of several computer hacking attacks. "We refer to this group as "APT1", and it is one of more than 20 APT groups with origins in China," the Mandiant report said. "APT1 is a single organization of operators that has conducted a cyber espionage campaign against a broad range of victims since at least 2006. From our observations, it is one of the most prolific cyber espionage groups in terms of the sheer quantity of information stolen."

According to the Mandiant report, APT1 had stolen billions of terabytes of data from 141 companies across 20 major industries. "APT1", the report said, "is believed to be the 2nd Bureau of the People's Liberation army (PLA) General staff Department's (GsD) 3rd Department, which is most commonly known by its Military unit Cover Designator (MuCD) as unit 61398. The nature of "Unit 61398's" work is considered by

China to be a state secret; however, we believe it engages in harmful “Computer Network Operations”. Unit 61398 is partially situated on Datong Road in Gaoqiaozen, which is located in the Pudong New Area of Shanghai. The central building in this compound is a 130,663 square foot facility that is 12 stories high, and was built in early 2007. We estimate that Unit 61398 is staffed by hundreds, and perhaps thousands of people.” The report also said Unit 61398 requires its personnel to be trained in computer security and network operations, and to be proficient in English.

### **What was the reaction to these revelations?**

Former Northern Army Commander Lt Gen D S Hooda (Retd), who after retirement, headed a panel that called for setting up specialised information warfare units, said that in 2014, the United States government discovered that a Chinese unit had hacked into the Office of Personnel Management, a unit of the federal government, and taken out records of 21 million people. Around 4 to 5 million of these people worked for the US military, and included CIA agents “The hackers got hold of 127 page forms, listing every detail of the individual official. This was one of the biggest hacks of classified personnel documents,” Gen Hooda said The US Department of Justice under President Barack Obama indicted five PLA officers by name for cyber crime. The names and photos of the officers were released, and they were accused of hacking and stealing information from several companies. “It was for the first time that the US took such a step against a foreign power,” Pavithran said.

### **What is the nature of the civil-military fusion that China encourages?**

According to Pavithran, China started a policy of weaponising its existing manufacturing capability of civilian products for military purposes by leveraging the control over any instrument by the original equipment manufacturer (OEM). Most mobile phones, for example, are equipped with a ‘soft’ rather than a ‘hard’ switch, Pavithran said: “This means that even if you switch off the phone, the sensors inside continue to feed data to the cloud. Entire populations can be monitored with this control.” China’s long experience of keeping its own people under surveillance has contributed to its expertise in individual surveillance, Gen Hooda said. “They know how to mine this data.” According to Pavithran, the Chinese use this information for kompromat, a Russian term for any information that can compromise a person, and which can therefore, be used to blackmail him/her. Gen Hooda said that in 2017, China passed a law under which all Chinese companies were supposed to assist the country’s intelligence-gathering operations. “They cannot say no. Besides there is a close link among the civil, military establishment and academia in China.”

### **Specifically, what are the military implications of this fusion?**

China, Pavithran said, has graduated from being a force ready to fight information warfare to a force equipped for ‘intelligentised’ warfare. “They have managed to weaponise their appliances all over the world.” This cyber prowess, he said, gives the PLA the ability to identify key personnel and directly target them in kinetic warfare.

**Source:** [indianexpress.com](http://indianexpress.com); 17 September 2020

# CHINA'S RESPONSES TO FRANCE-UK-GERMANY JOINT UN NOTE AGAINST ITS CLAIMS IN BIEN DONG SEA

- Valerie Mai

On September 18, China submitted a note to the United Nations in response to the joint note verbale of three European powers which expressed their opposition to China's expansive claims in the Bien Dong Sea (internationally called South China Sea).

## **China: Go against international laws**

In their note, the three European countries stressed that "the universal and unified character of UNCLOS that sets out the legal framework within which all activities in the oceans and seas must be carried out".

Meanwhile, China argued, "UNCLOS does not cover everything about the maritime order". The country also stated that "Paragraph 8 of the preamble of UNCLOS emphasizes that "matters not regulated by this Convention continue to be governed by the rules and principles of general international law" - a statement that its Deputy Foreign Minister used at the international conference on "The South China Sea from the perspective of cooperation" held on Hainan Island on September 2, Vietnamnet cited In fact, UNCLOS is a maritime charter, covering general provisions for all maritime zones and areas of marine activity. UNCLOS and the conventions established on the basis of UNCLOS create a bundled solution, requiring consistency in interpretation and application and no specific exceptions.

The China's note affirms that China has territorial sovereignty and maritime rights established in a long history and has the consistency of successive governments, in accordance with international law including both the United Nations Charter and UNCLOS. However, its 1980 White Paper states that Chinese fishermen were the earliest to discover, name, and manage the islands in the South China Sea. This goes against international law, which stipulates that only peaceful and continuous acts of occupation by the government bring in the title of sovereignty. Historically, Chinese governments have recognized the southernmost point of Chinese territory as Hainan Island. It was not until 1909 that China had a new dispute over the Parcel Islands. The use of force at Hoang Sa (Paracel) in 1974 and Truong Sa (Spratly) in 1988 was not a measure to create a title of sovereignty confirmed by the UN Charter.

## **France - UK - Germany's perspective**

In its note, China emphasizes the mixed application of both Article 7, part II and Article 47, part IV, of UNCLOS on defining the baseline for the territorial sea in order to bring maximum benefit to this country. France, UK and Germany has the opposite view. The three countries indicated that these two provisions above had conditions of application that were clearly defined in UNCLOS and couldnot be used overlapping.

China's argument is based on the 2018 study by the China International Law Association to refute the Bien Dong Sea ruling. This study cited 19 offshore archipelagos that applied a straight baseline. Of these, France, UK and Australia are all mentioned (France with the Kerguelen Islands; Guadeloupe and New Caledonia; Australia with Houtman Abrolhos Islands and Furneaux Group; UK with the Turks, Caicos Islands and the disputed Falkland Islands). However, these mentioned countries that oppose China to apply the straight baseline of the archipelago to the Hoang Sa (Paracel) Islands and plan to apply further to the Nanhai archipelago. These countries' notes are evidence that there is no international practice in applying archipelagic straight baselines to the offshore islands of the coastal state as proposed by China.

### **The legal war has not yet come to an end**

According to Vietnam's Ambassador Nguyen Hong Thao, the "War of Notes" started with Malaysia in December 2019 and attracts the involvement of 10 nations with 23 notes and official letters (China - 8, Philippines - 2, Malaysia - 3, Vietnam - 3; Indonesia - 2, US - 1, Australia - 1, France - UK - Germany - 3). Brunei and a number of other countries also issued statements demonstrating their stance. Most countries support the conclusions of the International Court of Justice's 2016 ruling that rejects the Chinas' claim of historic rights, and does not allow floating entities in the Truong Sa (Spratlys) to have a sea area larger than 12 nautical miles, does not to apply archipelagic baselines for the Truong Sa (Spratlys) as a unified unit.

More and more countries take a common stance, which may produce an erga omnes effect (applicable to all). China is still looking for new arguments to refute the Court's conclusions as well as to have a new interpretation of the provisions of UNCLOS. The legal battle in the Bien Dong Sea is not yet over, the Ambassador stated.

**Source:** [vietnamtimes.org](http://vietnamtimes.org); 20 September 2020

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