



# 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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## CHINA LAUNCHES 4 MISSILES INTO SOUTH CHINA SEA

- Carla Babb

WASHINGTON - Beijing has fired missiles into the disputed waters of the South China Sea, escalating U.S.-China tensions amid U.S. sanctions aimed at punishing companies that helped bolster China's continued militarization of the region. A U.S. defense official told VOA on Thursday the People's Liberation Army (PLA) launched four medium-range ballistic missiles from mainland China into an area of the South China Sea between Hainan Island and the Paracel Islands. The missile launches on Wednesday came amid recent Chinese military exercises, which unilaterally closed off large areas of the sea contested by several claimants. Vietnam has protested the exercises.

The official, speaking on condition of anonymity, said the recent Chinese military exercise "speaks volumes" about how the PLA views areas protected as free for passage under international law. Navy Capt. John Gay, a spokesman for the U.S. Pacific Fleet, said the United States currently has 38 ships in the Indo-Pacific region and will continue to monitor activities, including the most recent Chinese military exercises. The Pentagon issued a statement of concern Thursday, saying China's actions "stand in contrast to its pledge to not militarize the South China Sea and are in contrast to the United States' vision of a free and open Indo-Pacific region, in which all nations, large and small, are secure in their sovereignty, free from coercion, and able to pursue economic growth consistent with accepted international rules and norms." "The PRC [People's Republic of China] chose to escalate its exercise activities by firing ballistic missiles. We urge all parties to exercise restraint and not undertake military activities that could threaten freedom of navigation and aggravate disputes in the South China Sea," the Pentagon added.

Chinese Defense Ministry spokesman Wu Qian told news media Thursday the U.S. has "continued to provoke tensions and undermine China's sovereignty and security." He added that current diplomatic relations between the two countries have been "severely damaged."

China has made expansive claims over the South China Sea, basing military weapons and aircraft on artificial islands built atop reefs to bolster its territorial claims, which overlap with the territorial claims of other nations. The United States frequently conducts freedom of navigation operations in the South China Sea to dispute Beijing's claims and promote free passage through international waters that carry about half the world's merchant fleet tonnage, worth trillions of dollars each year. U.S. Secretary of Defense Mark Esper early Thursday warned that the

world's "free and open" system forged in the wake of World War II was under attack by what he called China's "rule-breaking behavior" in the Indo-Pacific region. Esper spoke in Hawaii, home to the U.S. Indo-Pacific Command, ahead of travel to Guam and Palau to take part in ceremonies marking the 75th anniversary of the end of World War II. Esper called the Indo-Pacific region the "epicenter" of great power competition, vowing not to "cede an inch" to countries that threaten international freedoms, in an apparent dig at China. On Wednesday, the U.S. imposed sanctions on 24 Chinese companies and several people who allegedly participated in building and militarizing disputed artificial islands in the South China Sea. The move is widely viewed as pushback against what the U.S. sees as an intensifying Chinese campaign to dominate the resource-rich sea and bully smaller nations in the region.

The U.S. Commerce Department said in a statement the companies played a "role in helping the Chinese military" with the construction project, while Secretary of State Mike Pompeo said in a separate announcement that Washington was placing visa restrictions on individuals "responsible" or "complicit" in the project.

"Since 2013, the PRC (People's Republic of China) has used its state-owned enterprises to dredge and reclaim more than 3,000 acres (1,214 hectares) on disputed features in the South China Sea, destabilizing the region, trampling on the sovereign rights of its neighbors, and causing untold environmental devastation," Pompeo said.

**Source:** [voanews.com](https://www.voanews.com); 27 August 2020

## INDIAN NAVY SENT WARSHIP TO SOUTH CHINA SEA AFTER LADAKH CLASH: REPORT

- ANI

New Delhi: Acting swiftly after the Galwan valley clash on June 15 in Eastern Ladakh, the Indian Navy sailed out its frontline warship for deployment in the South China Sea much to the displeasure of the Chinese who raised objections over the move during the talks between the two sides.

The Chinese have been objecting to the presence of Indian Navy ships in the region where it has significantly expanded its presence since 2009 through artificial islands and military presence. "Soon after the Galwan clash broke out in which 20 of our soldiers were killed, the Indian Navy deployed one of its frontline warship to the South China Sea where the People's Liberation Army's Navy objects to the presence of any other force claiming the majority of the waters as part of its territory," government sources ANI. The immediate deployment of the Indian Navy warship in the South China Sea had a desired effect on the Chinese Navy and security establishment as they complained to the Indian side about the Indian warship's presence there during the diplomatic level talks with the Indian side, the sources said.

During the deployment in the South China Sea, where the American Navy had also deployed its destroyers and frigates, the Indian warship was continuously maintaining contact with their American counterparts over secure communication systems, the

sources informed. As part of the routine drills, the Indian warship was being constantly updated about the status of the movement of military vessels of other countries there, they said adding that the entire mission was carried out in a very hush-hush manner to avoid any public glare on Navy's activities. Around the same time, the Indian Navy had deployed its frontline vessels along the Malacca Straits near the Andaman and Nicobar Islands and the route from where the Chinese Navy enters the Indian Ocean Region to keep a check on any activity of the Chinese Navy. A number of Chinese vessels also pass through the Malacca Straits while returning with oil or taking merchant shipments towards other continents.

The sources said the Indian Navy is fully capable of checking any misadventure by the adversaries on either the eastern or the western front and the mission-based deployments have helped it to control the emerging situations effectively in and around the Indian Ocean Region. The Navy also has plans to urgently acquire and deploy autonomous underwater vessels and other unmanned systems and sensors to keep a close eye on the movement of PLAN from Malacca Straits towards the Indian Ocean Region, the sources said. The Navy is also taking care of the Chinese vessels present around the Djibouti area and has deployed its assets in the vicinity for protecting national interest.

**Source:** [ndtv.com](https://www.ndtv.com); 31 August 2020

## **RUSSIA CONSIDERS CREATING STEALTH PARACHUTE**

- H I Sutton

KUBINKA /Moscow Region/, August 26. /TASS/. Russia is carrying out work to create parachutes invisible for night vision devices, CEO of Technodinamika Group (part of the state tech corporation Rostec) Igor Nasenkov told TASS at the Army-2020 forum on Wednesday. "The effect of chemical spraying for making the parachute invisible for night vision devices on the physical properties of basic fabrics used in the manufacture of parachute systems' canopies and cords and, correspondingly, the possibility of their use in producing materials for the canopies of parachute systems, are now being studied," the Technodinamika chief said. The stealth effect is achieved by applying special saturating techniques at the stage of producing polyamide threads and fabrics. Already today there are samples of materials for the manufacture of parachute backpacks that will be invisible for night vision devices, he explained.

The Army-2020 international military and technical forum opened on the territory of the Russian Armed Forces' Patriot Congress and Exhibition Center near Moscow on August 23 and will run through August 29. Some weapons will be demonstrated at the Alabino training ground, the Kubinka aerodrome and the Ashuluk practice range in the Astrakhan Region. Representatives of about 100 countries are planning to attend the forum.

Over 1,500 companies and enterprises will demonstrate about 28,000 exhibits. Almost 700 advanced weapon systems will be demonstrated in the static and dynamic shows at the Army-2020 forum.

**Source:** [tass.com](https://tass.com); 26 August 2020

## **DRILLS SET TO IMPROVE PLA NAVY ABILITIES**

- Zhao Lei

The People's Liberation Army launched at least three naval exercises in multiple waters on Monday, a move researchers said is intended to respond to provocations and improve the PLA Navy's combat capabilities. A live-fire combat exercise began on Monday in the Bohai Sea and will continue through Sept 30. In the South China Sea, two separate exercises began on Monday and will end on Saturday, maritime safety authorities announced without further elaborating. Beside these latest exercises, the PLA Navy is engaged in a large-scale, live-ammunition operation in the Yellow Sea from Saturday to Wednesday, the military said.

Li Jie, a retired researcher at the PLA Naval Research Academy, told China Daily on Monday that this past month has seen more military exercises conducted by the PLA than any previous month in many years. "The reasons are simple—first, we need to take countermeasures against the United States' provocations. The US military rallied several countries to carry out its Rim of the Pacific 2020 naval exercises. It has also intensified provocative acts in the air and waters off our coasts, despite the severe COVID-19 outbreak on its territories," Li said. "Second, we must strengthen our combat training and drill to prepare for possible contingencies in strategically important regions," he added. Though the PLA has not made public detailed arrangements of the exercises, Li said he believes there would be missile interception, anti-ship, air defense and landing operations, noting that a key purpose is to verify and improve the joint operational capabilities among multiple services.

A naval strategy researcher, who wished to be identified only as Cui, said such exercises are usually likely to test and foster sea-denial or sea-control capabilities. "Sea-denial capability means you can eliminate the adversary's core assets on the sea. Sea-control capability is much stronger and more demanding. It requires the destruction of the enemies' surface, underwater and air units in the given theater, which means it may involve our ballistic missiles," said Cui, who is familiar with developments in the PLA Navy. "The exercises are necessary because we still need to improve our abilities in each and every field of naval warfare, ranging from mine clearance to integrated assault." The combat drills came amid escalated tensions at sea between China and the US, which were caused by the repeated US provocations near China, especially in the Taiwan Straits and the South China Sea.

In response to a US warship's passage through the Taiwan Straits on Aug 18, Senior Colonel Zhang Chunhui, spokesman for the PLA Eastern Theater Command, said last week that US troublemaking actions in the straits pose "a real threat to regional peace

and stability and are extremely dangerous". The officer said that the US has engaged in a succession of "negative acts" concerning Taiwan recently, and such moves sent misleading signals to separatist forces in Taiwan and strongly threatened peace and stability in the straits.

**Source:** [chinadaily.com](http://chinadaily.com); 25 August 2020

## **PLA ARMY TESTS COMMERCIAL SHIPS AS WARTIME FLIGHT DECKS**

- Dave Makichuk

Where there's a will, there's a way.

The Chinese fleet is hurriedly building purpose-designed Type 75 assault ships that can support helicopters and landing craft. But it has also come up with a novel way to boost that capability to support amphibious landing operations in case of a conflict — it also mirrors what the Americans are doing. According to Janes, an aviation brigade of China's People's Liberation Army Ground Force (PLAGF) has conducted an exercise at sea showing its ability to utilize a commercial semi-submersible heavy-lift ship as a flight deck. Video footage released on Aug. 19 on the js7tv.cn website of the state-owned China Central Television 7 (CCTV 7) channel, shows Z-19 and Z-8 helicopters landing on and taking off from the vessel's deck, which was marked with three operating spots.

From the video it is clear that the exercise included serials for aircraft refuelling, using conventional fuel bowser lorries embarked on the ship, and re-arming the attack helicopters with missiles, Janes reported. The video was edited to conceal the name of the ship involved, but Rod Lee, Director of Research at the China Aerospace Studies Institute (CASI) of the US Air Force's Air University, identified it as Zhen Hua 28, which is registered in Hong Kong and operated by Shanghai Zhenhua Heavy Industries (ZPMC).

According to Forbes Magazine, some analysts see it as a creative — possibly desperate — bid to bolster its amphibious fleet, much like the US Navy has also done in building so-called "expeditionary sea-base ships." The US Navy ESBs, and the similar expeditionary transfer docks — ESDs — are variants of the Alaska-class crude carrier that General Dynamics National Steel and Shipbuilding Company in San Diego builds for the oil industry. They are essentially little more than commercial heavy-load carrier ships with a grey coat of paint and radios, Forbes reported. The two ESDs feature extremely low freeboard — that is, height at the waterline — along most of their length. The ships' low freeboard, combined with their ability to take on water and partially submerge, allows them to float landing craft directly on and off their main deck. The ESBs can't submerge but, as a bonus, feature a positively huge flight deck, Forbes reported.

Built to commercial standards, they are slow, unarmored and effectively unarmed. But at a cost of around US\$500 million apiece, they're also a cheap way for the Navy to



add capacity and flexibility to its amphibious flotilla. The Chinese navy apparently has been watching the US Navy experiment.

For decades Beijing's fleet has rented or borrowed commercial ships as an expedient method of expanding its modest-but-growing amphibious fleet, Forbes reported. In wartime, the Chinese navy quickly could take up from trade scores or even hundreds of useful vessels, much like the Royal Navy famously did during the 1982 Falklands War. Which is to say, in employing Zhen Hua 28, the Chinese navy isn't necessarily copying the Americans. But it is noteworthy that both fleets have, at around the same time, discovered the utility of submersible load-carriers.

**Source:** [asiantimes.com](https://www.asiantimes.com); 25 August 2020

# MARITIME FORCES

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## **TURKEY DELIVERS UPGRADED ANKA COMBAT DRONE TO NAVY**

- Aishwarya Rakesh

Turkish Aerospace Industries (TAI) has delivered upgraded ANKA combat drone - with a longer range and equipped with an automatic identification system and synthetic aperture radar (SAR) - to the Navy. “TAI has delivered ANKA to the Turkish Naval Forces Command. Congratulations to our military,” Ismail Demir, Chairman of Turkish Presidency of Defense Industries (SSB), said in a Twitter statement today. The company remarked that the drone had been equipped with Automated Identification System for the first time. With the recent delivery, the number of UAVs and armed UAVs in the Turkish security forces’ inventory has reached 144.

ASELSAN completed the serial production of the SARPEN SAR System, imaging and moving target detection radar developed for aerial platforms, and delivered it to TAI. One of these systems has been integrated into the ANKA, with flight tests carried out to this end, Turkish media reported. The ANKA-S System is developed for day and night reconnaissance, surveillance, fixed/mobile target detection, detection, identification, tracking and real-time image intelligence tasks also including those under unfavorable weather conditions. The ANKA-S System has a payload of 200 kg and an altitude of 30,000 feet and is capable of 24 hours of flight time.

**Source:** [defenseworld.net](https://defenseworld.net); 25 August 2020

## **RUSSIAN MOD SIGNS CONTRACTS FOR KILO-CLASS & LADA-CLASS SSK PROCUREMENT – UPGRADE OF AKULA- CLASS SSNS**

- Xavier Vavasseur

The signing ceremony took place at the Army 2020 international military and technical forum. It was also announced that a contract had been signed with the Zvyozdochka Shipyard for the repair and upgrade of Northern Fleet Project 971 (Akula-class) nuclear-powered submarines.

The Project 636.3 Varshavyanka-class submarine is a third-generation large diesel-electric submarine and is one of the world's most noiseless subs. The submarine has a length of 74 meters, a maximum displacement of more than 3,900 tons, an operational depth of 240 meters, a maximum depth of 300 meters, and a cruising range of 7,500 nautical miles.

The submarine's main weapon is a Kalibr-PL (SS-N-27 Sizzler) missile system with cruise missiles that are launched from torpedo tubes from the underwater position.

**Source:** [navalnews.com](https://navalnews.com); 27 August 2020

## **SHIPYARD IN CHINA LAUNCHED THE 25TH TYPE 052D AND 8TH TYPE 055 DESTROYERS FOR PLAN**

- Xavier Vavasseur

The Dalian shipyard (Northern of China) launched two more destroyers for the People's Liberation Army Navy (PLAN): The 25th Type 052D destroyer (NATO designation: Luyang III-class) and the 8th Type 055 destroyer (NATO designation: Renhai-class cruiser).

### **The impressive construction rate of China's shipbuilding Industry**

As we previously reported, China shipbuilders launched a total of 10 destroyers in 2019, with the 24th Type 052D and the 6th Type 055 launched by Dalian shipyard on 26 December, setting a new record. For the record, the first Type 055 was launched on 28 June 2017. In just over three years (38 months exactly), China managed to launch eight of those large destroyers (180 meters in length with a total displacement of 13,000 tons). What's more: China launched 13 Type 052D destroyers (157 meters in length with a displacement of 7,500 tons) in the same time frame (August 2017 to August 2020).

In the past 8 years, Jiangnan Shipyard near Shanghai produced an impressive 18 Type 052D destroyers while Dalian Shipyard produced 9 Type 052D. The first Type 055, Nanchang (南昌 with pennant number 101), was commissioned on 12 January 2020 while two Type 052D were commissioned with the PLAN in 2020: Zibo (淄博 with pennant number 156) was commissioned on 12 January with the PLAN's East Sea Fleet while Tangshan (唐山 with pennant number 122) was commissioned on 14 August with the PLAN's North Sea Fleet. Note that both Zibo and Tangshan are the "stretched variant" of the Type 052D featuring an extension to the helicopter deck and measuring 161 meters in length (compared to 157 meters for previous destroyers of the class).

### **About Type 052D Destroyer**

The Type 052D Kunming-class (Nato designation: Luyang III) is one of the latest generation of guided-missile destroyer (DDG) of the Chinese Navy. It is based on its predecessor, the Type 052C DDG and likely shares the same hull. However the Type

052D incorporates many improvements in terms of design as well as sensors and weapons fit. This modern class of vessel is considered as the Chinese equivalent to the American AEGIS destroyers. The vessels are still being built for the PLAN by two shipyards: Jiangnan-Changxing shipyard and Dalian Shipbuilding Industry Company. The first vessel of the class, Kunming (hull number 172), was commissioned in March 2014. Displacing 7,500 tons, the class has a length of 157 meters, a beam of 17 meters and a crew complement of 280 sailors.

The Type 052D is intended for the high seas. It shares almost the same platform as its predecessor, the Type 052C, but has more advanced combat systems and illustrates perfectly the Chinese military's "Run fast with small steps" approach in their weapons development. The ships are equipped with vertical launchers for eight anti-aircraft, anti-submarine or tactical cruise missiles each (64 missiles in total): four modules are located forward of the ship in front of the superstructure, four others aft, in front of the helicopter hangar. In addition to artillery systems, these destroyers are armed with two triple torpedo launchers. According to a presentation by a Vice Admiral of the PLAN in August 2017, the combat capability of a Type 052D is "1.6 times greater" than that of a Type 052C, knowing that the leading ships of these two classes of Chinese destroyer were launched with an interval of only 9 years. And a large series of production spread over several years inevitably implies improvements to the initial design. Type 054A frigates, with a total of 30 hulls built, have also experienced "upgrades" in weapons systems, for example. In the case of the Type 052D, it is at the level of its structure that major changes seem to have been implemented from the 14th ship in the class, named Zibo (淄博) with pennant 156. The Chinese destroyer is longer by about 4 meters. This extra length involves primarily its hangar and helicopter deck at the stern of the ship. Probably to accommodate the new Z-20 helicopter.

### **About Type 055 Destroyer**

The Type 055 destroyers are the largest surface combatant currently being built in the world with a length of 180 meters, a beam of 20 meters and a draft of 6.6 meters for a full load displacement of about 13,000t (compared to the US Navy's Ticonderoga-class cruiser and the Flight III Arleigh Burke-class destroyer both at 9,800 tons or the Royal Navy Type 45 at about 8,500 tons). Their official PLAN designation is "10,000-ton class destroyer." while the US Department of Defense have been calling them "cruisers" since 2017. First ship of the class, 'Nanchang' was launched on June 28, 2017 at the Jiangnan Changxing Shipyard in Shanghai and the second one was launched in April 2018 at the same shipyard. Two Type 055 were launched in 2019 and one so far in 2020 bringing the total of hulls in the water at this time to 7. Only the first ship of class has been commissioned to date (in January 2020).

The current Type 055's weapons fit includes:

- A 130 mm H/PJ-38 main gun
- 112 VLS silos
- A H/PJ-11 CIWS with a fire rate of 10,000 rd/min
- A HQ-10 short-range missiles
- Decoy launchers
- Torpedoes.



The silos are split in two ares: 64x cells forward and 48x cessls aft, just in front of the ship's double hangar. They are of the same model as those used on Type 052D, compatible with both hot and cold launch missiles thanks to the Concentric Canister Launcher (CCL) concept. According to our colleague East Pendulum, all Chinese missiles which size does not exceed 9 meters in length and 0.85 meters in diameter can be launched from those VLS cells, provided that the combat system is compatible. The PLAN is set to fit its first few Type 055 with HQ-9B anti-aircraft missiles with a range of 200 km, YJ-18A anti-ship missiles, a new type of medium range anti-aircraft missile and land attack cruise missiles based on the YJ-18 family, ie, practically the same as those already found on Type 052D destroyers. It is also likely that the new anti-submarine missile Yu-8A is among the ship's weapons fit.

**Source:** [navalnews.com](http://navalnews.com); 30 August 2020

## FIRST IMAGE OF CHINA'S NEW CARRIER-BASED AEW PLANE

- H I Sutton

The Chinese Navy is building a fleet of aircraft carriers that will be the second largest in the world. However, they currently lack airborne early warning (AEW) aircraft, which is considered a vital component of a balanced air wing. This is set to change with the introduction of the Xian KJ-600 carrier-borne AEW aircraft. It looks remarkably like the U.S. Navy's E-2C Hawkeye. The prototype KJ-600 has been spotted in satellite imagery of the Xi'an Aircraft Industrial Corporation's airfield at Xian-Yanliang in central China. This is where many prototype planes are first seen. Chris Biggers, an imagery intelligence expert, identified the new aircraft in commercial satellite imagery provided by Planet Labs.

Although these are the first images of the prototype, evidence of the KJ-600 program has been seen before. A mock-up of the plane was spotted in August 2018 on a full scale concrete aircraft carrier built hundreds of miles inland at Wuhan. This training facility is used by the Chinese Navy to test deck layouts. And Xian Industrial Corporation has previously flown the experimental JZY-01 AEW aircraft. This was based on the Xian Y-7 transport aircraft. The twin-prop Y-7 is itself based on the famous Antonov An-24 aircraft. It was widely seen as a demonstrator for the KJ-600, which is similar to the JZY-01 but more compact and generally more refined.

The layout is remarkably similar to the U.S. Navy's E-2 Hawkeye family of aircraft. They are both twin turboprop aircraft with high-mounted long straight wings that can fold for carrier storage. They have a relatively small fuselage just large enough for a crew of 4 to 6. The radar is carried in a large rotodome atop the fuselage. Lastly the tail is split into several smaller vertical stabilizers, like bombers of World War II. The layout of the two planes is virtually identical, to the point that aircraft recognition may prove a challenge in the future. The Hawkeye is a well proven design that first flew 60 years ago, and is still in service aboard U.S. and French aircraft carriers.

This may be a case of form following function, although there can be little doubt that the Hawkeye was the inspiration for the KJ-600. The same can be said of the Russian Yakovlev Yak-44, which had once been destined to operate from the U.S.S.R's carriers.

It is not yet known whether the KJ-600's radar actually rotates. An alternative is to have three or more fixed arrays which together cover in all directions. China uses both approaches in different aircraft. But the satellite images shows just one darker leading edge segment. This suggests a single radar array, which logically has to rotate to cover 360 degrees. The exact radar configuration may be confirmed in future images. There is also a question mark as to whether the KJ-600 will be able to operate from China's first two carriers, because they use a ski-jump instead of a catapult, so aircraft have to launch using only their own power. But China's first indigenous carrier-borne AEW aircraft is real. It is seen as a major development and capability leap for the Chinese Navy. Together with new carriers, and new operating facilities, it is part of a sea change in China's naval power.

**Source:** [forbes.com](https://www.forbes.com); 29 August 2020

## **INDIA TO START BIDDING PROCESS FOR 6 SUBMARINES WORTH RS 55,000 CR BY OCT**

- PTI

India is all set to launch the bidding process by next month for a Rs 55,000-crore mega project to build six conventional submarines for the Indian Navy to narrow the gap with China's growing naval prowess, government sources said on Sunday. The submarines will be built in India under the much-talked-about strategic partnership model that allows domestic companies to join hands with leading foreign defence majors to produce high-end military platforms in the country and reduce import dependence.

The sources said the groundwork like specifications of the submarines and other critical requirements for issuance of the RFP (request for proposal) for the mega project, named as P-75 I, has been completed by separate teams of the defence ministry and the Indian Navy. The RFP will be issued by October, they added. The defence ministry has already shortlisted two Indian shipyards and five foreign defence majors for the project, being billed as one of biggest "Make in India" ventures. The shortlisted Indian entities were L&T group and state-owned Mazagaon Docks Ltd (MDL) while the select foreign entities included ThyssenKrupp Marine Systems (Germany), Navantia (Spain) and Naval Group (France).

Initially, the defence ministry will issue RFPs to MDL and L&T and the two firms will have to submit their detailed bid after receiving the document. Subsequently, the L&T and MDL will have to select a foreign partner out of the five shortlisted entities, the

sources said. The Indian Navy plans to acquire 24 new submarines, including six nuclear attack submarines, to bolster its underwater fighting capability. It currently has 15 conventional submarines and two nuclear submarines. The Navy has been focusing on significantly bolstering its overall capabilities in view of China's growing efforts to increase its military presence in the Indian Ocean Region. The Indian Ocean, considered the backyard of the Indian Navy, is critical to the country's strategic interests.

According to global naval analysts, Chinese navy currently has over 50 submarines and about 350 ships. The total number of ships and submarines is projected to go past 500 in next 8-10 years. The Indian Navy is also in the process of procuring 57 carrier-borne fighter jets, 111 Naval Utility Helicopters (NUH) and 123 multi-role helicopters under the strategic partnership model. The policy envisages the establishment of long-term strategic partnerships with Indian defence majors through a transparent and competitive process wherein they would tie up with global original equipment manufacturers (OEMs) to seek technology transfers. Initially, the strategic partners will be selected in four segments - fighter aircraft, helicopters, submarines and armoured fighting vehicles/main battle tanks. It is expected to be expanded to other segments. In the last few months, the government has unveiled a series of reform measures and initiatives to make India a hub of defence manufacturing. On August 9, Defence Minister Rajnath Singh announced that India will stop the import of 101 weapons and military platforms like transport aircraft, light combat helicopters, conventional submarines, cruise missiles and sonar systems by 2024.

In May, the government announced increasing the FDI limit from 49 per cent to 74 per cent under the automatic route in the defence sector. India is one the largest importers of arms globally. According to estimates, the Indian armed forces are projected to spend around USD 130 billion in capital procurement in the next five years. The government now wants to reduce dependence on imported military platforms and has decided to support the domestic defence manufacturing. The defence ministry has set a goal of a turnover of USD 25 billion (Rs 1.75 lakh crore) in defence manufacturing in the next five years that included an export target of USD 5 billion (Rs 35,000 crore) worth of military hardware.

**Source:** [businessstandard.com](https://www.businessstandard.com); 30 August 2020

# SHIPPING, PORTS AND OCEAN ECONOMY

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## TEN COUNTRIES KEPT OUT COVID. BUT DID THEY WIN?

- Owen Amos

The Palau Hotel opened in 1982, before mass tourism but since then, this tiny nation, surrounded by the sky-blue Pacific Ocean, has enjoyed something of a boom. In 2019, 90,000 tourists came to Palau, five times the total population. In 2017, IMF figures showed, tourism made up 40% of the country's GDP. But that was pre-Covid. Palau's borders have been, in effect, closed since late March. It is one of the only 10 countries in the world with no confirmed cases (counting only countries that are full UN members, and excluding North Korea and Turkmenistan). Yet, without infecting a single person, the virus has ravaged the country. The Palau Hotel has been closed since March, and it's not alone. The restaurants are empty, the souvenir shops are shut, and the only hotel guests are returning residents in quarantine.

Countries with no recorded Covid-19 cases

- Palau
- Micronesia
- Marshall Islands
- Nauru
- Kiribati
- Solomon Islands
- Tuvalu
- Samoa
- Vanuatu
- Tonga

"The ocean here is much prettier than any other place in the world," says Brian Lee, manager and co-owner of the Palau Hotel. It is the sky-blue ocean that kept Brian busy. Before Covid, his 54 rooms had an occupancy rate of 70%-80%. But when the borders closed, there was nothing to fall back on. "It's a small country, so local people won't stay in Palau," says Brian. He has around 20 staff, and has kept them all on, albeit with reduced hours. "I try to find jobs for them – maintenance, renovation, and so on," he says. But empty hotels cannot be maintained and renovated for ever. "I can stay for another half-a-year," says Brian. "Then I may have to close." Brian doesn't blame the government, which has offered financial support to residents, and has, after all, kept



the virus out. “I think they did a good job,” he says. And yet, if Palau’s first hotel is to survive, something has to change soon. The president recently announced that “essential” air travel could resume by 1 September. Meanwhile, an “air corridor” with Taiwan, which would allow tourists to visit, has been rumoured.

For Brian, it can’t come soon enough. “I think they have to start reopening again – maybe have travel bubbles with New Zealand and countries like that,” he says. “Otherwise, no one can survive here.” Some 2,500 miles (4,000km) east, across the vast Pacific Ocean, the Marshall Islands also remain Covid-free. But, like Palau, no infection does not mean no impact. The Hotel Robert Reimers sits on a ribbon of land on the main atoll, Majuro, with a lagoon on one side, and ocean on the other. Before Covid, the 37 rooms had an occupancy rate of 75%-88%, with guests mainly from Asia, the Pacific, or “the Mainland” (the United States). Since the borders closed in early March, that rate has been 3%-5%. “We’ve had a few coming from the outer islands,” says Sophia Fowler, who works for the hotel group. “But not a lot.” Nationally, the country is expected to lose more than 700 jobs in the Covid downturn, the biggest fall since 1997. Of those, 258 will be in the hotel and restaurant sector. But self-isolation affects more than tourism – and the Marshall Islands are much less dependent on holiday-makers than Palau. A bigger problem is the fishing industry.

To keep the country Covid-free, boats that have been in infected countries are banned from entering the country’s ports. Other boats, including fuel tankers and container ships, must spend 14 days at sea before entering. Fishing licences are unsold, and cargo flights have been cut. The effect is clear. The Marshall Islands specialise in aquarium fish – the most popular is the flame angel fish – but exports fell by 50%, according to one US report. The shore-based shipment of sashimi tuna fell by the same amount. Other fishing industries expect a 30% fall during the year. In short, you can keep the virus out, but you can’t beat it. Covid-19 gets you one way or the other. Sophia “hopes” things return to normal for the country, and Hotel Robert Reimers, next year. But if they don’t? “Then it’s just not feasible for us,” she says.

But while closing borders has made Covid-free countries poorer, not everyone wants them reopened. Dr Len Tarivonda is the director of public health in Vanuatu, population 300,000. Though he works in the capital, Port Vila, he is from Ambae, an island of 10,000 people around 170 miles north. “If you talk to them [in Ambae], the majority say keep the border closed for as long as possible,” he says. “They say: ‘We don’t want the sickness – otherwise we’re doomed, basically.’” Some 80% of people in Vanuatu live outside towns and the “formal economy”, Dr Tarivonda says. “And my observation is they don’t necessarily feel the pinch yet. They are subsistence farmers, they grow their own food – they depend on the local, traditional economy.” Nonetheless, the country will suffer. The Asian Development Bank expects GDP to fall by almost 10% – Vanuatu’s biggest drop since independence in 1980. That slump is not just down to Covid’s closed borders. In April, Tropical Cyclone Harold battered much of the country, killing three people and affecting more than half the population. “We had a daily health emergency operation briefing,” Dr Tarivonda remembers. “First we would discuss Covid, then TC Harold. Two disasters going on at the same time.” Yet Covid will have the longer-lasting impact.

In July, the government announced plans to reopen the border to other “safe” countries by 1 September. Then cases grew in Australia, and New Zealand, and the

plan was pushed back. Dr Tarivonda, who sits on the border task force along with government, tourism, and airline officials, admits they are “almost back to square one”, with no new date for reopening. Smaller, specific cross-border travel may help Vanuatu. The government recently allowed 172 workers to travel to the Northern Territory in Australia for six months to pick mangoes. While the remittances will help, they are not enough in a country where 35% of GDP comes from tourism. But, despite that need for open borders, Vanuatu will not rush to reopen. Dr Tarivonda looks at Papua New Guinea, which was almost Covid-free until a sharp increase in late July, with concern. “If the virus comes, it will probably be like wildfire – and what we are seeing in Papua New Guinea is a reflection of why we are worried,” he says. “Given our [health care] limitations, the context we have in the Pacific, the best bet is to keep the virus out for as long as possible.”

So is there anything the Covid-free countries can do? There are short-term measures, such as payments to workers and business. And there is one long-term measure: wait for a vaccine. Until then, travel bubbles remain the best hope. Yet, as Rommel Rabanal from the Asian Development Bank points out, they sound simpler than they are. “These arrangements have prerequisites,” he says. “A common set of testing standards, contact tracing, and quarantine facilities, in case outbreaks happen. They are under discussion but there has been slow progress – or perhaps cautious progress.” And – as seen with Vanuatu’s “September plan” – the bubbles can burst quite easily, too. “Australia and New Zealand have made it clear the first country they’ll test it with is each other,” says Jonathan Pryke, director of the Pacific islands programme at the Lowy Institute. “And before that can happen, you need to remove community transmission. So I think the prospects of a travel bubble are off the cards for this year.”

Mr Pryke says that, as the months pass, the desperation is mounting in the closed-off Pacific countries. He is, however, in no doubt that the only option for these countries was self-isolation on an international scale. “Even if they kept their borders open, their major tourism markets of Australia and New Zealand wouldn’t be open, as they’ve locked down their own borders,” he says. “So you would have the worst of both worlds – a health crisis and an economic crisis. We’re going to have years and years to look at what the right decisions were. “But looking back, no one’s going to doubt that locking down was the right move by these Pacific nations.”

**Source:** [bbc.com](https://www.bbc.com/news/health-55844444); 24 August 2020

## **EXCLUSIVE: INDIAN STATE REFINERS HALT OIL IMPORTS FROM CHINESE COS, SOURCES SAY**

- Nidhi Verma

NEW DELHI (Reuters) - Indian state refiners have stopped buying crude oil from China-linked companies, three sources said, after New Delhi’s recent regulation aimed at restricting imports from countries that it shares a border with.

The new regulation, put in place on July 23, comes after a border clash between India and China that killed 20 Indian soldiers and soured relations between the two neighbors. Since the new order was issued, state refiners have been inserting a clause in their import tenders on new rules restricting dealings with companies from countries sharing a border with India, the sources said and the tender documents show. Last week, Indian state refiners decided to stop sending crude import tenders to Chinese trading firm like CNOOC Ltd, Unipet and PetroChina, among others, one of the sources said. To participate in Indian tenders, the July 23 order makes registration with a department in the federal commerce ministry 'mandatory' for any bidders from nations sharing a border with India. India shares borders with China, Pakistan, Bangladesh, Myanmar, Nepal and Bhutan, but the government statement did not name any specific country.

State refiners, which control 60% of India's 5 million barrel-per-day refining capacity, regularly tap spot markets for crude. India is the world's third biggest oil consumer and importer and imports nearly 84% of its oil needs. China does not export crude to India but Chinese firms are major traders of the commodity globally. Chinese companies also hold equity stakes in many oilfields across the globe ranging from the Middle East to Africa and the Americas and often submit competitive bids in crude import tenders by Indian state refiners.

## **NATIONAL INTEREST**

Indian state refiners have also decided not to deal with China Aviation Oil (Singapore), PetroChina and subsidiaries of Unipet among others for fuel imports, and have stopped chartering Chinese tankers for imports, sources said. "There is no impact from the tanker ban and refined fuel imports restrictions as we hardly hire Chinese vessels and our (state refiners') refined fuel imports are also almost nil except for liquefied petroleum gas (LPG)," a second source said. State refiners will, however, take delivery of crude in tankers linked to China if the import tender was awarded on a cost, insurance, freight (CIF) basis, where the seller arranges the ships, the sources said. State refiners Indian Oil Corp, Bharat Petroleum Corp, Hindustan Petroleum Corp, Mangalore Refinery and Petrochemical did not immediately respond to requests for comment. CNOOC, PetroChina and Unipet parent Sinopec also did not immediately respond to requests for comment, while China Aviation Oil declined comment.

India has surplus refining capacity. Most refiners are operating their plants at below capacity as COVID-19-related restrictions have dented fuel demand. [O/INDIA2] [O/INDIA1] "Nowadays our own requirement is very less, so these new rules are not hurting much. But at some point in time we will definitely be impacted by the new conditions. But we need to think of the larger picture and the national interest, also," a third source said.

**Source:** [reuters.com](https://www.reuters.com); 27 August 2020

# MARINE ENVIRONMENT

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## IPCC: THE DIRTY TRICKS CLIMATE SCIENTISTS FACED IN THREE DECADES SINCE FIRST REPORT

- Marc Hudson

Thirty years ago, in a small Swedish city called Sundsvall, the Intergovernmental Panel on Climate Change (IPCC) released its first major report. Even then, the major dilemmas facing those who sought rapid action were clear. An account by Jeremy Leggett, who had thrown in a well-paid job as a geologist for Shell to become Greenpeace's climate campaigner, reported the events of that first summit, including an encounter with coal industry lobbyist Don Pearlman.

"They had their heads down, copies of the draft negotiating text for the IPCC final report open in front of them. Pearlman was pointing at the text, and talking in a forceful growl... As I walked past, I saw him pointing to a particular paragraph and I heard him say, quite distinctly, 'if we can cut a deal here...' Although it seems so naïve now, I was shocked."

Days later, a delegate from the Pacific island of Kiribati pleaded with the conference for a breakthrough in the negotiations. Concerted international action is needed to drastically decrease our consumption of fossil fuels. The time to start is now. In the low-lying nations, the threat... of global warming and sea level rise is frightening." He paused before concluding. "I hope this meeting will not fail us. Thank you."

Shortly afterwards the US delegation "tabled a catalogue of attempted emasculations" of the text. Along with the Saudi and Soviet delegations, representatives of the richest and most powerful country in the world "chipped away at the draft, watering down the sense of alarm in the wording, beefing up the aura of uncertainty". It would be a painful three decades for people anxious to see action on climate change. For the scientists investigating the problem, it would often be a personal battle against powerful interests.

### **The path to the summit**

The accumulation of carbon dioxide in the atmosphere, caused primarily by the burning of fossil fuels, had been worrying scientists since the 1970s. The discovery of the "ozone hole" above Antarctica had given atmospheric scientists enormous credibility and clout among the public, and an international treaty banning chlorofluorocarbons, the chemicals causing the problem, was swiftly signed. The Reagan White House worried that a treaty on CO<sub>2</sub> might happen as quickly, and set about ensuring the official scientific advice guiding leaders at the negotiations was under at least partial control. So emerged the intergovernmental – rather than



international – panel on climate change, in 1988. Already before Sundsvall, in 1989, figures in the automotive and fossil fuel industries of the US had set up the Global Climate Coalition to argue against rapid action and to cast doubt on the evidence. Alongside thinktanks, such as the George Marshall Institute, and trade bodies, such as the Western Fuels Association, it kept up a steady stream of publishing in the media – including a movie – to discredit the science. But their efforts to discourage political commitment were only partially successful. The scientists held firm, and a climate treaty was agreed in 1992. And so attention turned to the scientists themselves.

### **The Serengeti strategy**

In 1996, there were sustained attacks on climate scientist Ben Santer, who had been responsible for synthesising text in the IPCC's second assessment report. He was accused of having “tampered with” wording and somehow “twisting” the intent of IPCC authors by Fred Seitz of the Global Climate Coalition. In the late 1990s, Michael Mann, whose famous “hockey stick” diagram of global temperatures was a key part of the third assessment report, came under fire from right-wing thinktanks and even the Attorney General of Virginia. Mann called this attempt to pick on scientists perceived to be vulnerable to pressure “the Serengeti strategy”. As Mann himself wrote, “By singling out a sole scientist, it is possible for the forces of “anti-science” to bring many more resources to bear on one individual, exerting enormous pressure from multiple directions at once, making defence difficult. It is similar to what happens when a group of lions on the Serengeti seek out a vulnerable individual zebra at the edge of a herd.”

As the evidence became ever more compelling, the attacks on scientists escalated. In late 2009, just before the Copenhagen climate summit, emails among climate scientists were hacked and released. They were carefully selected to make it seem as if scientists were guilty of scaremongering. The so-called “climategate” scandal was not to blame for Copenhagen's failure, but it kept climate deniers energised and helped muddy the waters enough to make it seem as if legitimate doubt persisted over the scientific consensus.

### **What next?**

Thanks to COVID-19, the next IPCC assessment report probably won't be delivered before the delayed conference in Glasgow at the end of 2021. There probably won't be anything in it that tells us more than what we already know – CO<sub>2</sub> levels are rising, the consequences are piling up, and campaigns for delaying meaningful action have been spectacularly successful for the last 30 years. Some scientists, including Columbia University professor James Hansen, argue that the agonising efforts of scientists to avoid provoking accusations of alarmism have led to an innate optimism bias. The official science reported by the IPCC may in some cases be a cautious underestimate. It's likely worse – much worse – than we think.

If the last three decades have taught the international community anything, it's that “the science” is not a single, settled entity which, presented properly, will spur everyone to action. There are no shortcuts to the technological, economic, political and cultural changes needed to tackle climate change. That was true 30 years ago in Sundsvall. The only thing that has changed is the time in which we have left to do anything.

**Source:** [theconversation.com](https://theconversation.com); 27 August 2020

## THE SURPRISINGLY DIFFICULT TASK OF MEASURING SEA-LEVEL RISE AROUND INDIA

- Shreya Dasgupta

Bengaluru: Imagine living in Mumbai, and waking up to the view of the Arabian Sea every morning. Now imagine having to abandon your home because sea level on Mumbai's coast has risen, and every time there's a storm or a cyclone, a wall of high waves rides on that water, breaching the embankment and submerging everything in its path. This scenario hasn't played out yet – but it is likely to happen in the future.

Scientists have predicted this because there is considerable evidence that the sea level is rising everywhere on Earth. In fact, measurements show that the mean sea level has been rising faster in recent decades than in the entire 20th century. Researchers are also quite sure, through meticulous measurements taken across the globe, that much of the sea-level rise is due to human-induced global warming that's melting ice sheets and glaciers, and heating up the oceans.

In the 20th century, the global mean sea level rose at 1.4 mm per year, according to the 2019 IPCC Special Report on Ocean and Cryosphere in a Changing Climate (SROCC). Between 2006 and 2015, the rate increased to 3.6 mm per year. In fact, mean sea level is projected to rise beyond 2100 no matter how much we change our greenhouse gas emissions from this point on, according to the report. Another report released by India's Ministry of Earth Sciences (MoES) and the Indian Institute of Tropical Meteorology (IITM-MoES), Pune, in June this year suggests India is following similar trends. Between 1874 and 2004, the mean sea level in the northern Indian Ocean rose by 1.06-1.75 mm per year – but at about 3.3 mm per year from 1993 to 2017. The rising mean sea level is evidence that climate change is definitely happening, said Steven Nerem, a professor of aerospace engineering sciences at the University of Colorado, Boulder. It's like popping a thermometer and taking your temperature when you feel sick, he told *The Wire Science*. "Measuring sea level changes is another way of diagnosing what's happening with Earth." So the numbers tell us that the mean sea level around India is rising. The term 'mean sea level' – or the average height of the ocean – also sounds simple. As it turns out, tracking it reliably is not simple at all.

### **Various levels of the sea**

Unless you live on the coast and keep a close watch on the ocean's comings and goings, perhaps the one time you do think about the mean sea level is when talking about the elevation or depth of a place. Official figures put Bengaluru at an average height of around 900 m above mean sea level, for example. Kanchenjunga in Sikkim has a height of around 8,586 m above mean sea level. Some parts of Kerala like Kuttanad are estimated to be a metre or two below mean sea level. Chennai is nearly at sea level.

But the height of the ocean – from any reference surface or point – isn't constant. There are waves on the ocean's surface. The combined effects of the gravitational pull of the Sun and the Moon produce high tides and low tides. Then there are weather patterns like storms or the El Niño that constantly move the water around. The ocean is also not continuous. It is interrupted by lumpy masses in the form of continents and ice sheets, whose different density and therefore gravity pulls the sea slightly toward them. Any change in these masses, say, due to ice sheets melting can affect the gravitational field and change regional sea levels. Land masses are also not stationary. They're subtly, but constantly, moving up or down. Tectonic activity, for instance, can cause land to subside or rise. So can the gradual build-up or removal of sediments deposited by rivers in delta regions like the Sundarbans, or the excessive withdrawal of groundwater.

There were also massive ice sheets covering much of North America, and Northern Europe in the last glacial period, about 20,000 years ago. As the planet's surface warmed, the ice melted and retreated to the sea, and land – no longer saddled by the weight – began to rebound, and continues to do so very slowly. Think of how your mattress resumes its original shape after you get up. To understand how the sea level is changing in relation to your city, town or village, we need to account for both the land's and the ocean's movements. "If land subsides, or goes down, then you feel that sea level is rising. If there's no subsidence, then we get to see the actual sea level," M. Ravichandran, director of the National Centre for Polar and Ocean Research in Vasco da Gama, said.

So how do scientists determine if sea level is rising or not?

### **Tide gauges**

To get a sense of changing sea levels in the 20th century, scientists have banked principally on instruments called tide gauges. These devices, installed within observatories along the Indian coast and on some islands, measure how the sea level changes relative to the point on land where the observatory is built – also called the relative sea level.

India's tide gauges are mostly mechanical: any change in water level displaces a float, whose movement is conveyed to a needle that records the ups and downs of the water on a graph chart wound around a rotating drum. The charts are then sent to the Survey of India office in Dehradun, the central agency responsible for managing tide gauges in the country, where researchers extract the data and record it digitally for further analysis, according to S.K. Singh, former director of the geodetic and research branch of the Survey of India. In many places around the world, float-activated tide gauges have been replaced by electronic or other kinds of gauges. But in India, these old gauge types continue to be in use. They're also typically more reliable.

There are 36 tide-gauge observatories on India's mainland coastline and islands, Singh added, although he wasn't sure how many were functional at the moment.

In fact, not all tide gauges have been functional all the time in the past. But to be able to see if climate change is indeed causing the sea level to rise, you need not a month,

not a year, but several decades' worth of continuous data – at least. This is so natural variations in the sea level aren't mistaken for a rise or fall. "If you use a shorter period of data, there will be other factors contributing to sea level," A.S. Unnikrishnan, a retired chief scientist of CSIR-National Institute of Oceanography, Goa, said. "In some years, there will be El Niño, for example, that will reflect on the sea level. If you take longer periods, those signals will get averaged." So how many decades of data do you need? Some researchers have suggested we need more than 50 to 60 years of continuous measurements, with minimal gaps. But tide gauges don't often collect data over such a long period, and researchers have had to make do. Unnikrishnan, for example, has used data from tide gauges with more than 40 years of continuous records to determine long-term sea level trends for India in the last century. There aren't many of those in India. The tide gauge in Mumbai, installed by the British East India Company in the late 1800s, is the only observatory in the country that has been offering more than a century's worth of sea level measurements. A few others, in places like Kochi, Diamond Harbour in Kolkata, Visakhapatnam and Chennai, have more than 40 years of recordings. But data from some of these tide gauges have their limitations too.

In a paper published in 2006, for example, Unnikrishnan and his colleagues studied data from tide gauges in Mumbai, Kochi, Chennai and Visakhapatnam to understand mean sea level change along the Indian coast up to 1994. In that analysis, they found that while Mumbai, Kochi and Visakhapatnam showed a sea-level rise of 0.78, 1.14 and 0.75 mm per year respectively, the estimate for Chennai showed a decrease, by about 0.65 mm per year. In a subsequent study, published the next year, the team analysed tide gauge data from four observatories in the Arabian Sea – Aden, Karachi, Mumbai and Kochi – to estimate sea-level trends across the north Indian ocean. For the Bay of Bengal, they used one tide gauge in Visakhapatnam. This time, the team excluded data from Chennai. "We later on realised that that [trend] cannot be taken seriously because there are gaps in the data," says Unnikrishnan. The 2007 paper estimated that the mean sea level had increased at 1.06-1.75 mm per year in the north Indian Ocean up to 2004. These results aligned with the global mean sea level increase rate of 1 to 2 mm per year in the same time period. And India's National Action Plan for Climate Change, released in 2008, uses this estimate.

However, a national mean sea level rise is only an average indication of what's happening across the north Indian Ocean. For a country like India, which has a long coastline plus includes numerous islands, the average hides many local differences. These differences could affect how plans for combating climate change are designed. For example, tide gauge data from Diamond Harbour in Kolkata wasn't included in the 2006 or the 2007 analyses of final average trends (although the 2007 paper did report Diamond Harbour's data individually). This is because making sea level measurements in the region is tricky in general. There are frequent 'signals of storm surges' – that is, a temporary increase in sea level due to storms pushing more water towards the coast – reflected in the sea level data, Unnikrishnan and his colleagues wrote in the 2006 paper. And there's land subsidence. But subsequent studies (this and this) that did analyse data from Diamond Harbour tide gauge found that the net mean sea level rise there was nearly 5 mm per year between 1948 and 2010. The Ministry of Earth Sciences first noted this trend only in 2019, in the Lok Sabha – that Diamond Harbour's sea level rise measurements were much higher than the national



average during a similar period. Some researchers say that the delta region has been sinking over time, although the data to pinpoint the exact mechanisms influencing the subsidence isn't very clear. Land subsidence combined with an actual rise in the mean sea level could be exacerbating the impact of sea-level rise in the Bay of Bengal delta, experts said. Imagine standing in the middle of a swimming pool that's both being filled with water, and whose bottom is sinking. "The Sundarbans delta is subsiding quite fast," said Sugata Hazra, of the school of oceanographic studies, Jadavpur University, Kolkata. "It is not the mathematical sea level but what is actual or the relative sea level that is creating the hazard for people."

But to get to a 'true' relative sea level, we need information on whether, and at what rate, the land is moving up or down. There is a global model to account for some of the glacial isostatic adjustment of land – the very slow rebound of land due to ice sheets melting. On the flip side, there isn't much data in India on how tectonics, sediment compaction, water extraction and other local processes are changing the land's vertical movement. Ideally, you would have this vertical land-movement information from the same place as the tide gauge observatory. This is because tide gauge observatories are built on land, and any vertical motion of Earth's crust affects the observatory's height relative to the sea. After the 2004 Indian Ocean tsunami, the Survey of India installed GPS instruments to measure land movement at around 20 observatories along the Indian coast. But the measurements have been discontinued, according to Singh. "Due to maintenance, administrative and other problems, the project could not go [on for] very long. We have some data, but it's not [for] long enough, and there were problems with the instruments also."

There is another big limitation of using tide gauge data. While some observatories do offer a long-term look at sea level changes in India, going back several decades or even a century in the case of Mumbai, there are not enough of them. This makes understanding local variations across the Indian coastline a challenge. "Tide gauges sample the ocean sparsely and non-uniformly," said Swapna Panickal, a scientist with IITM-MoES. "They provide point observations mostly confined along the coastlines and ocean island stations, and therefore [are] often not representative of offshore conditions." Fortunately, scientists have another tool to measure sea level.

## **Satellites**

Since 1992, satellite altimeters have been the primary source of information on sea level. But these satellites measure a different kind of sea level compared to tide gauges. Data from tide gauges allows us to determine the relative sea level. Satellite altimeters on the other hand measure the absolute sea level – which are changes in the height of the ocean relative to a fixed centre of the planet. This way, it doesn't matter if land nearby is rising or sinking. Satellite altimeters have a simple mechanism. The satellites have radars onboard that bounce signals off the ocean's surface. The time it takes for a pulse to go all the way down and come back up is used to calculate each satellite's distance from the ocean. Subtracting this distance from a satellite's altitude relative to Earth's centre yields the ocean surface's height from Earth's centre.

Satellite altimeters cover the entire globe, unlike tide gauges that record changes in sea level at distinct, well-separated locations. But while tide gauges monitor sea level every day, altimeters cover the planet in about 10 days, which means there's a sea level

recording of a particular place every 10 days. “We’ve been doing that for 27 years now, so we have 27 years of 10-day maps of sea level that are accurate to a centimetre or two,” Nerem said. By analysing satellite altimetry data for the north Indian Ocean, a recent study found that the mean sea level across this region had risen at a rate of about 3.2 mm per year between 1993 and 2012 – much faster relative to the entire 20th century. For the northern and eastern coasts of the Bay of Bengal, where West Bengal is located, satellite altimetry-derived trends are even more alarming: about 5 mm per year. So it seems the sea level around India isn’t just rising – it’s accelerating. But the study’s authors caution that a period of two decades is “not long enough to resolve the natural sea level variability at interannual and decadal timescales”.

Even globally, the rates of mean sea level rise have been found to be picking up pace in the last two decades. What’s causing the acceleration? For the north Indian Ocean, the exact mechanisms aren’t very clear yet, says Unnikrishnan. But speaking of the planet as a whole, the acceleration is likely because of two reasons, according to the 2019 IPCC SROCC. First, Greenland and Antarctic ice sheets as well as glaciers seem to be melting faster this century than they did in the previous one. Second, since the ocean stores more than 90% of the excess heat trapped by greenhouse gases, studies indicate that the ocean is becoming hotter than before – and hot water expands. The Indian Ocean, in fact, seems to be heating up more than others. Between 1951 and 2015, its surface temperature increased by 1° C on average, reports suggest, compared to the global average rise of 0.7° C in the same time period.

Scientists have been able to figure out the contribution of ocean heating to sea-level rise using devices called argo floats. A network of about 3,000 of these robotic instruments have been lowered into the ocean around the world. The floats move with currents, measure temperature and salinity of the ocean at various depths, and transmit the data to satellites. “India provides about 150 floats of data at any point of time,” Ravichandran said. To estimate the contribution of melting ice, researchers have turned to NASA’s twin Gravity Recovery and Climate Experiment (GRACE) satellites. These satellites help measure how the mass of ice sheets or glaciers is changing on Earth by studying how the force of gravity varies over Earth.

“GRACE provides not only how much total mass is being added to the ocean, it also tells you at which parts it is being added to, which parts of Antarctica, which parts of Greenland or Alaska,” said Srinivas Bettadpur, director of the Centre for Space Research at the University of Texas at Austin. “An oceanographer can then decide whether the entire addition of mass will make the sea level rise uniformly or if it will make it rise non-uniformly in different parts of the oceans.” In general, satellite measurements have been key to figuring out possible causes of sea level rise, according to Nerem. “If all we had was tide gauge data, I think we would all be arguing about ... what’s causing sea level change, how much is changing. So satellite data has really helped us understand what is happening.”

### **Data gaps**

On the flip side, satellite altimeters can’t take a closer look at the land because of competing signals from shallow water and terrestrial sources. For many climate studies, getting closer to the coast isn’t very necessary, according to Nerem. But if people want to know what’s happening or going to happen on the coast where they

live, say in Mumbai, then data from the coast is essential. “If you have to design a plan for coastal resilience, you have to depend on the local observations and assessments,” Hazra said. This data comes mainly from tide gauges.

Panickal said we need continuous monitoring of the Indian coast line with an extensive network of tide gauges with co-located GPS systems. There are also gaps in our understanding of how sedimentation and groundwater extraction affect land movements in India, particularly in places like the Sundarbans delta region. It’s surprising we don’t have this information even after three Sundarbans islands have completely disappeared and several others, including tiger habitats, have shrunk, Hazra added. Finally, there aren’t enough regional projections that can shed light on which parts of the country are most at risk from sea level rise. That is, there aren’t enough studies for us to know which parts of the country will be inundated and to what extent, or which places will suffer frequent floods, twenty years from now. “All these IPCC models are global level models – global models are okay for certain purposes, like studying the acceleration of mean sea level,” Unnikrishnan said. “But if you want to know what is happening where, regional projections aren’t very good now. There are many things to be done. And some people have already started in this direction.”

Note: This article was edited at 9:30 pm on August 30, 2020, to clarify Sugata Hazra’s institutional affiliation.

Shreya Dasgupta (@ShreyaDasgupta) is an independent science writer based in Bengaluru, India. Her work has appeared in Mongabay, Nature, BBC Earth, Smithsonian.com, New Scientist, Ensia, and other publications.

**Source:** [thewire.in](https://thewire.in); 30 August 2020

## SEYCHELLES TO BENEFIT FROM \$50 MILLION IN CLIMATE CHANGE PROJECT GRANT MONEY

- Daniel Laurence

(Seychelles News Agency) - Seychelles is among countries in the region that will benefit from a \$49.2 million grant which aims to address the issues of climate change in the western Indian Ocean islands. The Green Climate Fund (GCF) will provide a \$38-million-dollar grant to help non-governmental organisations in Comoros, Madagascar, Mauritius and Seychelles to carry out ecosystem-based adaptation projects, also known as natural or nature-based solutions, to climate change.

The other \$11.2 million is a grant from the US-based Critical Ecosystems Partnership Fund which empowers civil society in developing countries to protect the world’s biodiversity hotspots. Wills Agricole, Seychelles’ national focal point for GCF - the South Korea-based fund, said this is a milestone to be celebrated by all as community groups and the local private sectors are going to benefit from these climate funds. “We will measure the success of the project by how efficiently we can reach vulnerable people and give them the tools and funds to better cope with climate change.

Seychelles will continue to drive such paradigm-shifting approaches to cope with climate change because we must prepare adequately for this reality,” said Agricole.

Ecosystem-based adaptation is the use of the natural environment, more specifically biodiversity and ecosystem services such as wetlands, mangroves and seagrass beds, to help people increase their resilience, reduce their vulnerability and adapt to the effects of climate change. Agricole, who is also the Principal Secretary for Energy and Climate Change, said that “the project unlocks opportunities to strengthen the response to climate change in Seychelles and the western Indian Ocean. It will adopt integrated approaches which enhance the climate resilience of ecosystems and infrastructure.” He added that “despite the COVID-19 pandemic, the Green Climate Fund has proven its commitment to help developing countries address climate change by operating in a more agile, adaptable and virtual way. We are, therefore, pleased to have the GCF as a partner in this fight.” Seychelles is part of another regional project with Comoros, Madagascar and Mauritius which is being processed by the GCF, this time for \$74 million. It will strengthen meteorological, hydrological and climate services in the four island countries.

Seychelles – 115 islands in the western Indian Ocean - also has four projects of its own in the pipeline. While the ecosystem based adaption project will provide grants to civil society, it will also, among other activities, promote the involvement of and partnerships with the private sector to encourage them to join the fight against climate change.

**Source:** [seychellesnewsagency.com](https://seychellesnewsagency.com); 24 August 2020

# GEOPOLITICS

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## **EXPLAINED: WHY NEW DELHI WILL MISS SHINZO ABE, WHO GAVE NEW SHAPE TO JAPAN'S INDIA TIES**

- Shubhajit Roy

Japan's Prime Minister Shinzo Abe announced on Friday that he would step down as a chronic illness has resurfaced. Abe, 65, was due to be in office till September 2021. He will stay on until his party chooses a successor, and will remain an MP.

### **Shinzo Abe's lineage**

Abe comes from a political family. His grandfather Nobusuke Kishi was PM (1957-60), then his father Shintaro Abe was Foreign Minister (1982-86). On Monday, Abe became Japan's longest-serving PM by consecutive days in office, overtaking the record of Eisaku Sato, his great-uncle, who served 2,798 days during 1964-72. Abe had first become the country's PM in 2006, but resigned in 2007 due to illness. His current stint began in 2012.

### **Shinzo Abe in India**

In his first stint in 2006-07, Abe visited India and addressed Parliament. During his second stint, he visited India thrice (January 2014, December 2015, September 2017) — the most visits by any Japanese PM. He was the first Japanese PM to be Chief Guest at the Republic Day parade in 2014. This reflected his commitment towards an India relationship — he was being hosted by a government that would be facing elections in May 2014. As Japan's leader, he was wooed both by the UPA under Dr Manmohan Singh and the NDA under Narendra Modi.

### **Transformation in India-Japan ties**

While the foundation for "Global Partnership between Japan and India" was laid in 2001, and annual bilateral summits were agreed in 2005, Abe accelerated the pace of ties since 2012. In August 2007, when Abe visited India for the first time as PM, he delivered the now-famous "Confluence of the Two Seas" speech — laying the foundation for his concept of Indo-Pacific. This concept has now become mainstream and one of the main pillars of India-Japan ties. During his second term, Abe helped build the relationship further. Having visited Japan several times as Gujarat CM, Modi as PM chose Japan for his first bilateral visit outside the neighbourhood, in September 2014. Modi and Abe agreed to upgrade the bilateral relationship to "Special Strategic and Global Partnership". The relationship grew and encompassed issues from civilian nuclear energy to maritime security, bullet trains to quality infrastructure, Act East policy to Indo-Pacific strategy. On Friday, after Abe announced his decision to step



down, Modi tweeted: “Pained to hear about your ill health, my dear friend @AbeShinzo. In recent years, with your wise leadership and personal commitment, the India-Japan partnership has become deeper and stronger than ever before. I wish and pray for your speedy recovery.”

When Modi went to Japan in 2014, the Indo-Japan nuclear deal was still uncertain, with Tokyo sensitive about a pact with a non-Nuclear-Proliferation-Treaty member country. Abe’s government convinced the anti-nuclear hawks in Japan to sign the agreement in 2016. The pact was key to India’s deals with US and French nuclear firms, which were either owned by or had stakes in Japanese firms.

**Source:** [indianexpress.com](https://indianexpress.com); 27 August 2020

## **AT WTO MEET, DELHI OBJECTS TO EU & TAIWAN ‘RUSH’ TO CORNER INDIA ON IMPORT TARIFF HIKES**

- Nayanima Basu

New Delhi: India this week raised objections at a World Trade Organisation (WTO) meeting against the European Union and Chinese Taipei “rushing” to the intergovernmental body against import tariff revisions effected in 2019, ThePrint has learnt.

According to a trade official based in Geneva, the Swiss city where the WTO is headquartered, India said the “parties in a dispute should work together”. Last year, the EU and Chinese Taipei dragged India to the WTO when the Modi government imposed increased import tariffs — ranging from 7.5 per cent to 20 per cent — on a number of information and communications technology (ICT) products such as mobile phones and components, integrated circuits, headsets and cameras. According to the complainants, India has applied duties on seven ICT products in excess of the 0 per cent binding rates laid out under WTO norms. Under WTO dispute settlement norms, the first step is to seek consultations between the parties. If that fails, then the complainant can request for a dispute panel to be set up. India, the official said, had taken exception to the EU and Chinese Taipei’s “rush” to appoint the panel. “India made a statement criticising complainants for rushing forward to ensure the appointment of panellists in their two disputes with India over its tariffs on certain high-tech products,” the official added.

“India is of the view that parties in a dispute should work together at every stage of a dispute and that agreement of the parties to the selection of a slate of panellists is an entrenched principle aimed at securing the legitimacy of panels,” the official said. India believes the “undue hurry” to ensure the appointment of panellists seems to be linked to the fact that the current WTO director-general will leave his post on 31 August.

**‘Unacceptable’**

At the meeting between the disputing parties in Geneva, India also said the WTO secretariat should have proposed nominations for the panel to the parties for their consideration, but failed to do so, describing this as “unacceptable”, the official said. Meanwhile, in June, Japan also joined the EU and Taiwan — India recognises Taiwan as Chinese Taipei in acknowledgment of Beijing’s ‘One China’ policy — in the dispute against India. Like Taiwan, it has also sought a separate WTO dispute panel for the case. Weighing in on the matter, a second Indian government official said New Delhi does not want the case to turn into a full-fledged dispute and is keen on settling the matter through consultations. Both India and the EU held consultations in May 2019 but failed to settle the matter. According to sources, the matter was discussed at the last India-EU Summit that was held this July, when both sides decided to launch a high-level trade and investment dialogue.

**Source:** [theprint.in](https://theprint.in); 29 August 2020

## PAKISTAN'S BALANCING ACT MAY BE FAILING

- Abdul Basit & Zahid Shahab Ahmed

Earlier this month, the long-simmering tensions between Pakistan and Saudi Arabia came to a boil when Pakistan's Foreign Minister Shah Mehmood Qureshi publicly criticised the kingdom for its perceived lack of support for Islamabad's interests in the disputed Kashmir region.

During a televised interview on August 4, Qureshi said Islamabad expects the Jeddah-based Organization of Islamic Cooperation (OIC) to convene a meeting on Kashmir. Otherwise, he said, Pakistan would be "compelled" to "call a meeting of the Islamic countries that are ready to stand with us on the issue of Kashmir". Qureshi's comments have widely been viewed as a veiled threat to create a new bloc that would rival the Saudi-dominated OIC.

In response, Saudi Arabia withdrew a \$1bn loan it had extended to Pakistan in November 2018, when the country was in dire economic straits and required foreign reserves to avoid a possible sovereign default. The kingdom has also refused to renew a deferred oil payments scheme that was part of the same package. In a bid to control the damage, on August 17, Pakistan's Chief of Army Staff General Qamar Javed Bajwa rushed to Riyadh. However, the Saudi Crown Prince Mohammed bin Salman (MBS) did not grant an audience to Bajwa, and the powerful military chief abruptly returned to Islamabad after holding a short meeting with Saudi Deputy Defence Minister Khalid bin Salman bin Abdulaziz. Soon after General Bajwa landed in Pakistan, Qureshi left for China, sending a clear message to the kingdom that Islamabad is diversifying its alliances and re-evaluating the value of its strategic partnership with Riyadh.

The latest diplomatic spat between Saudi Arabia and Pakistan should be seen in the broader context of recent strategic realignments in the Middle East and the Muslim world. For some time, Pakistan has been struggling to keep to its traditional policy of maintaining neutral relations with rival Muslim powers. While Islamabad is concerned about the deepening strategic and economic cooperation between its arch-rival India and a group of Arab states led by Saudi Arabia, Riyadh is equally frustrated

by Pakistan's overtures towards Muslim-majority states it views as hostile, such as Turkey, Malaysia and Qatar.

Furthermore, the proposed Iran-China deal that is due to make both Islamabad and Tehran important nodes in Beijing's Belt and Road Initiative is expected to change the dynamics of Pakistan's relations with Iran. Saudi Arabia, which views Iran as the main threat to its regional and global ambitions, is concerned about the possible emergence of a new partnership between Iran and Pakistan under the stewardship of China.

After India's August 2019 move to revoke Indian-administered Kashmir's semi-autonomous status, Pakistan expected Arab states to ferociously endorse its Kashmir policy. However, Saudi Arabia - and its Gulf allies, such as the United Arab Emirates (UAE) - failed to take a strong stance against India, frustrating Islamabad.

The Gulf states have balanced their dealings with Pakistan and India in the past. But now, it seems, they are openly moving closer to India and away from Pakistan. This new strategy was on display during MBS's February 2019 tour of South Asia. The Saudi Crown Prince not only made the unprecedented move of visiting India directly after Pakistan, but also promised to make larger investments in India than he did in Pakistan. After signing a memorandum of understanding valued at about \$20bn to help prop up Pakistan's economy, MBS said in New Delhi that he expects Riyadh's investments in India "to exceed \$100bn in the coming two years". A few weeks later, in March 2019, the UAE also made it clear that it is seeking closer ties with India at the expense of Pakistan, when it invited India's Foreign Minister Sushma Swaraj as a guest of honour to the OIC summit it was due to host. Pakistani Foreign Minister Qureshi pulled out of the summit in protest, but failed to make the UAE rescind its invitation to India.

Today, Saudi Arabia has several reasons to value its deepening partnership with India more than its historic ties to Pakistan. While the annual trade between Pakistan and Saudi Arabia stands at around \$3.6bn, Saudi-India bilateral trade is worth more than \$30bn. This trade differential partially explains, despite persistent Pakistani requests, why Riyadh has avoided raising the Kashmir issue beyond mere tokenism. Unlike Pakistan, Saudis do not take a zero-sum view of their growing economic cooperation with India. In fact, economic overtures towards India are part of MBS's post-oil economic diversification efforts. Furthermore, the new government in Pakistan is moving closer to Turkey and Malaysia - two countries that Saudi Arabia views as challengers to its prominence within the Muslim world. Last December, Pakistan caved in to Saudi pressure and pulled out of the Kuala Lumpur summit, which was perceived by many as an attempt to replace the Saudi-controlled OIC. The embarrassment it suffered over the affair made Islamabad more eager to carve out some autonomous policy space to safeguard its vital strategic interests without perpetually depending on its Arab allies. As a result of Pakistan's efforts to be more autonomous, which moved it closer to Riyadh's rivals in the Muslim world, Saudi Arabia started to perceive Pakistan more as a potential rival than a loyal ally. This too likely makes the Saudi leadership less eager to lash out at India over Kashmir. While Pakistan is undoubtedly well aware of Saudi Arabia's move away from itself and towards India, given its economic dependence on the kingdom, it cannot afford to sever its ties with Riyadh completely. This is why Pakistani Prime Minister Imran

Khan recently played down his country's differences with Saudi Arabia, claiming that the "rumours" about a rift between Riyadh and Islamabad are "totally false".

Amid ongoing strategic realignments in the Middle East and the wider world, we are likely to see many more ups and downs in the relations between Saudi Arabia and Pakistan in the coming days. It appears Saudi Arabia will continue to move closer to India, ignoring Pakistani demands for support on Kashmir. Pakistan, meanwhile, is unlikely to give up on its diverse partnerships and return to Saudi Arabia's orbit. While some friction seems unavoidable, the two long-time allies can prevent further fraying by assuming a pragmatic approach and working to strengthen ties in areas of convergence, such as security.

*Editor's note: A previous version of this article wrongly referred to Chief of Army Staff General Qamar Javed Bajwa as Lieutenant-General. The article also erroneously claimed Saudi Arabia's \$1bn loan to Pakistan was interest free, this has now been corrected.*

**Source:** [Aljazeera.com](https://www.aljazeera.com); 31 August 2020

## INDIA'S ANSWER TO CHINA-BACKED THAI CANAL PLAN IS A HUGE MILITARY UPGRADE IN ISLANDS

- Shishir Gupta

With Chinese Navy positioning itself for dominance in the Indian Ocean through strings of ports in Myanmar, Pakistan and Iran, India is planning rapid infrastructure upgrade in its Island territories to ensure that there is no restriction on navigation or a replay of the South China Sea in Indian backyard. According to top military officials, India will upgrade the airstrip at INS Kohassa, Shibpur in north Andamans and at the Campbell strip at Nicobar into full-fledged fighter bases. The airstrip at Agatti, in Lakshadweep will also be upgraded for military operations to secure both the Bay of Bengal upto Malacca Straits and Arabian Sea up to Gulf of Aden.

"The two Island territories will be like the new aircraft carriers for India, extending the navy's reach in the region far from the mainland. Both the Islands sit on the busiest sea lanes of the world with more than half the world trade going through this route," said a tri-service commander. Lakshadweep sits on the Nine Degree Channel, so named because it lies on the 9-degree line of Latitude, north of the equator. The Andamans and Nicobar Islands will allow the navy to dominate the Six Degree and Ten Degree Channels towards Southeast Asia and North Asia. With Chinese Navy positioning itself for dominance in the Indian Ocean through strings of ports in Myanmar, Pakistan and Iran, India is planning rapid infrastructure upgrade in its Island territories to ensure that there is no restriction on navigation or a replay of the South China Sea in Indian backyard.

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The continuing focus on the infrastructure upgrade also comes against the backdrop of China’s aggressive moves in Ladakh and its reluctance to restore status quo ante. The Chinese aggression has not only prompted New Delhi to reinforce force deployment along hotspots along the LAC but also in the high seas.

The Indian Navy is on high alert from the Persian Gulf to the Malacca Strait in the context of the standoff with China. The instructions to the navy are clear: That they should be prepared for military action if China mounts an attack along the Line of Actual Control, people familiar with the matter said. Indian military officials stressed that the upgradation of air bases in the Island territories would ensure that China’s People’s Liberation Army Navy under its President and commander in chief Xi Jinping, does not dominate the area to extract leverage from all countries in the region.

For now, the United States earlier this month flew in its three B-2 stealth bombers to the naval support facility in Diego Garcia in the south Indian Ocean to support the Pacific Air Forces’ Bomber Task Force to deter China from flexing its muscles in the region. Around the same time, the US decided to sell 66 new American-made F-16 fighter jets in the biggest arms sale to the island, a democracy of 24 million people that Beijing claims to be an inseparable part of its territory. A few days later, the United



States also moved aircraft carrier Ronald Reagan and its strike group for maritime air defence operations to the restive South China Sea. The US Navy said the training said the Carrier Strike Group participated in cooperative sea drills with the Air Force's B-1B Lancer to improve "joint readiness response capabilities. The US Navy said the units conducted air-to-air operations, combat search and rescue drills and air defence exercises, according to the Navy.

**Source:** [hindustantimes.com](https://www.hindustantimes.com); 25 August 2020

## WHY INDIA'S BID TO BRING RUSSIA INTO THE INDO-PACIFIC INITIATIVE IS UNWISE

- Mohamed Zeeshan

India has a difficult foreign policy problem on its hands. While New Delhi would like a balance against Beijing in the wake of recent tensions, it also prefers to remain non-aligned in China's geopolitical rivalry with the United States in the Indo-Pacific. In a bid to solve that quandary, India has turned to an unlikely quarter: Russia. In June, Indian Defence Minister Rajnath Singh used a trip to Moscow for a delayed Victory Day parade to urge Russia to expedite the delivery of defence equipment. Then, India's ambassador to Russia floated the idea of Moscow participating in the Indo-Pacific initiative. With the idea having gained currency among many strategic analysts in New Delhi, India mooted the possibility of Russian involvement in a trilateral engagement with Japan. But that's just a start; India and Russia will have their annual summit in October and chances are that the Indo-Pacific will feature on that agenda.

By pulling Russia into the Indo-Pacific, India hopes to escape making tough choices in the US-China face-off. New Delhi is also trying to induce a split between Russia and China by appealing to shared interests over freedom of navigation in the South China Sea and the Indian Ocean. If Moscow can be convinced that Chinese aggression is a threat, New Delhi believes it will become a useful partner in the Indo-Pacific. The presence of another major military power, capable of providing a balance to the US and China, will help turn the bipolar geopolitical battlefield into a multipolar arena – with greater space for middle powers like India itself. But this line of reasoning is problematic. For India's plans to work, Russia must see possible Chinese hegemony in the Indo-Pacific as a threat – the same way India, the US, Australia, Japan and others do. Among other initiatives, India and Russia are currently working on a sea route from Chennai to Vladivostok, the success of which would depend on peace in the South China Sea. Yet, the odds are stacked against New Delhi. Take China's economic influence over Russia, for instance: China has been Russia's largest trading partner for up to a decade. In 2018, China accounted for over 15 per cent of Russia's total trade.

With the Russian economy wilting under Western sanctions and Covid-19 wreaking havoc, Moscow will only become increasingly dependent on Beijing. But far from fearing Chinese influence, Russia has in fact stepped up collaboration on an ever-growing list of common interests in recent years. In different parts of the world, China's economic might has complemented Russian military presence. In Syria, for

instance, the two countries have often spoken in one voice – and Russia’s military offensive in support of Syrian President Bashar al-Assad has run parallel to Syria’s deepening economic ties with China. Similarly, on Iran, both countries have been countering the US. Just this month, they voted against a US proposal in the United Nations Security Council to extend a weapons ban on Iran. Shortly afterwards, the two countries launched a joint effort to organise a summit on the Iran nuclear issue – one that US President Donald Trump has said he is unlikely to attend.

And while China has helped prop up the Russian economy, Russia has been helping build up China’s own military prowess: Russia supplied as much as 70 per cent of China’s arms imports between 2014 and 2018, a clear sign of deepening strategic convergence between the two countries. Similarly, on Iran, both countries have been countering the US. Just this month, they voted against a US proposal in the United Nations Security Council to extend a weapons ban on Iran. Shortly afterwards, the two countries launched a joint effort to organise a summit on the Iran nuclear issue – one that US President Donald Trump has said he is unlikely to attend.

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*Mohamed Zeeshan is editor-in-chief of Freedom Gazette and holds a master of international affairs degree from Columbia University*

**Source:** [scmp.com](https://scmp.com); 25 August 2020

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