Recommendations on How the United States Can Stop China from Invading Taiwan

A Report for the Center for Security Policy



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Executive Summary

China is gearing up to attack Taiwan and has many options for how that would work. As this is written approaching the last week of January, 2021 eight Chinese bomber planes, nuclear capable Xian H-6K bombers and four Shenyang J-16 fighter jets entered the southwestern corner of Taiwan's air defense identification zone (ADIZ). These incursions and harassing operations are part of a pattern of Chinese provocations that could at any moment become the point of an arrow for a war against Taiwan.

Any attack by China, limited or not, directly impacts regional stability and could result in a decoupling of the United States from East Asia, or worse. It could end democracy in Taiwan and directly threaten Japan, forcing Japan to placate China. Pro-American political leaders in Japan almost certainly would be thrown out of office, even arrested if China demands a purge.

Because Taiwan is very close to the Chinese mainland, separated by the Taiwan Strait, the timeline in any assault is short, making an effective response difficult. China also has the option to launch assaults against the Taiwanese islands of Quemoy (Kinmen), Matsu, Penghu, and the Pratas Islands, either as a prelude to a full-scale invasion or to force Taiwan to surrender its sovereignty.

Neither the U.S., Taiwan nor Japan is prepared to respond other than by improvisation. There is no unified or joint command, no common communications backbone, and no shared tactical or strategic intelligence system.

To address these growing threats to Taiwan from China, this report includes these urgent policy recommendations for the Biden administration:

- The U.S. Department of Defense establish a Joint Military Command for the Defense of Japan and Taiwan with a mandate to organize a fully coordinated capability to respond to Chinese invasion threats.
- Improvements in air defenses, aircraft and standoff weapons to assure the survivability of Taiwan's air bases and U.S. and Japanese airbases and to retain a strong capability to stop any Chinese aggression.



Background

China is growing in power. It is also stepping up pressure on Taiwan and Japan. Will China strike either country, and if so, how?

Most analysts who study China and the Chinese military believe China will begin with missile strikes aimed at destroying Taiwan's airfields, radars, command centers, and navy. Once the missile strikes destroy a good part of Taiwan's defenses, so the logic goes, China would launch a full-scale invasion of the island, using its air, sea and land forces.

The underlying rationale is that Taiwan's strong air force would lose its bases and, therefore, its ability to strike back. In addition, a missile and precision weapons strike against Taiwan could take place with little observable warning. But even if there was warning, it might prove irrelevant, given the time it would take for the United States, Taiwan's main ally, to respond.

In this "Strike Hard and Fast" scenario, a great deal of damage could be done to Taiwan's defense capability, possibly including destruction of parts of Taiwan's critical infrastructure, such as power plants, fuel depots and communications hubs. China might then wait to see what follows: perhaps offering an olive branch for regime change in Taiwan, possibly assuring the United States, Japan, and others that this is a "local matter" involving a Chinese province and as such would not warrant an American response.

There are, however, a number of intangibles and some considerable downsides for China. Most obvious is that China may not cause sufficient damage to compel Taiwan to surrender to China's demands.

Second is that the surviving Taiwanese air and naval capabilities might be enough to scuttle a substantial part of China's naval fleet. The recent U.S. decision to approve sending large numbers of Harpoon anti-ship missiles to Taiwan gives Taiwan a strong counterpunch.

A third issue involves Taiwan's outside possessions including the <u>Pratas</u>, <u>Penghu</u>, <u>Matsu</u>, and <u>Quemoy</u> (Kinmen). Quemoy is heavily fortified. Penghu has an important airfield loaded with Taiwanese fighter aircraft. The Pratas Islands (Tungsha Tau) are in the northern part of the South China Sea, around 444 km (276 mi) from the rest of <u>Kaohsiung</u>, 850 kilometers (530 miles) southwest

of Taipei, 320 kilometers (200 miles) southeast of Hong Kong and 260 km (160 mi) south of <u>Shantou</u>, <u>Guangdong</u>. Would China have to simultaneously attack these outposts? Logic says yes. If so, China may have less success than it may think against a determined defense. China also has to account for nearby U.S. forces that could intervene.



There are four U.S. naval bases – Yokosuka, Sasebo, and Okinawa and the Atsugi Naval Air Facility. Yokosuka is the home port for the U.S. aircraft carrier <u>Ronald Reagan</u> (CVN-76) and the strike group that goes with it. Overall, the <u>U.S. has 23 bases in Japan</u> that can, if so ordered, retaliate for any Chinese attack.

U.S.-Japan Treaty of Mutual Defense

The U.S. and Japan are linked by a <u>Treaty of Mutual Cooperation and Security</u> that went into force in 1951, making it the oldest such treaty the U.S. has. In 1960, when the treaty was renewed, an important provision that had previously permitted the United States to "act to maintain peace" in <u>East Asia</u> was dropped from the text. However, Article 6 of the revised Treaty contained replacement language that <u>set off a firestorm in Japan</u> when the Legislative Diet was asked to approve the deal.



Article 6 reads: "For the purpose of contributing to the security of Japan and the maintenance of international peace and security in the Far East, the United States of America is granted the use by its land, air and naval forces of facilities and areas in Japan."

The key terms are the broadened purpose of the agreement to cover "international... security in the Far East" and the granting to the United States the use of its "land, air and naval forces of facilities and areas in Japan." This was taken to mean by those in Japan opposing the Treaty that the U.S. could use its bases throughout the Far East without any required agreement of Japan's government.

Since that time, two additional interpretive expansions have been added to the coverage of the Treaty. The most important was a U.S. declaration, to the relief of the Japanese, to add the Senkaku Islands to Treaty coverage. The Senkaku Islands are located east of <u>mainland China</u>, northeast of <u>Taiwan</u>, west of <u>Okinawa Island</u>, and north of the southwestern end of the <u>Ryukyu Islands</u>.

The Senkakus, which Japan says includes Okinawa, are part of a larger island chain stretching from the south of Japan and known as the Ryukyu Islands, or Nansei Islands. Mainland China calls them the Diaoyu Islands, the Taiwanese call them the Tiaoyu Islands, and both claim sovereignty. But, as a practical matter, the area is under Japanese control and is administered from Okinawa.



These islands sit astride critical sea lines of communication for China and can, in principle, block China's access, forcing its navy to go through the Taiwan straits where their ships are vulnerable to land, air and naval attack. A key feature is the Miyako Strait

(宮古海峡), also known as the Kerama Gap, which is a 250 km strategic waterway which lies between Miyako Island and Okinawa Island.

China has not accepted Japan's policy that China should inform Japan before its warships move through the Kerama gap. Instead, China has pressed Japan about the ownership of the Ryukyu's and has tried to stir up political trouble on Okinawa.

China's pressure appears to have had the reverse effect, as Japan's State Minister of Defense Yasuhide Nakayama <u>said recently</u> that Taiwan's security is a "red line" for both Japan and the United States. China is regarded as seeking control of the so-called "First Island Chain" which has Taiwan as its centerpiece but includes the Japanese controlled islands. Nakayama said that loss of these islands (including Taiwan) would hand China effective control of much of Japan's energy supply and trade flow.

A second change in Treaty coverage was in the form of a U.S. declaration by former President Barack Obama that the Treaty covers cyber-attacks. The declaration does not indicate what would constitute a cyber-attack significant to trigger a "hard" response. However, there are two reasonable presumptions: first, that a cyber-attack of sufficient seriousness could be linked to a Chinese military attack on Japan, on the U.S. in or around Japan, or against Taiwan.

Second, any attack launched by China against Taiwan would aim to shut down communications, especially U.S.-Taiwan communications. <u>Asia Sentinel</u> reported that, "The likelihood of the PRC damaging or corrupting submarine cables and related infrastructure that connect Taiwan to the outside world should not be underestimated or overlooked by the international community..."

One of the important undersea cables is the 8,000-mile (12,874.75 km) Pacific Light Cable Network System (PLCN) from Taiwan to the United States. Recently, the Federal Communications Commission (FCC) granted Google rights to use this cable for its operations that include Google Cloud. The cable connects Google's Taiwan data center with its counterparts in America and serves users throughout the Asia-Pacific region.

Should China launch a cyberattack on Taiwan or seek to cut off U.S. data access to Taiwan or to Japan and Taiwan, it likely would trigger the interpretation of the U.S.-Japan treaty. Would the U.S. Navy seek to restore the cable service or use such an attack as sufficient provocation to take military action more broadly?

The Mutual Defense and Security Treaty is a two-way street in the sense that the U.S. can take advantage of the Treaty to use its bases on Japanese territory, but Japan can also request U.S. assistance in confronting an unfolding regional security crisis.

The odd man out of the treaty picture is Taiwan. While Taiwan gets some coverage under the Taiwan Relations Act, mainly in the form of military supplies, there is no U.S. obligation to intervene to help Taiwan if it is attacked.

While there is no simple way to remedy the problem, U.S. regional interests and Japanese interests appear to converge in seeing any attack on Taiwan as a "red line." A Joint Military Command would improve, but not guaranty, that the U.S. and Japan would respond with Taiwan to any attack, a kind of de-facto security umbrella.

Time and Distance

One of China's aims is to push back the United States and, through its aerial denial policy, make the use of nearby bases in the case of a Taiwan attack, challenging.

Ideally, China would hope to restrict the U.S. to <u>Guam</u> which is 2,750 km (1709 miles) from Taipei. If Guam were effectively neutralized by Chinese missiles, the next possible U.S. operation would come either from Hawaii or Australia. From Hawaii to Taipei is 8,114 km (5,042 miles) meaning that long range bombers and, perhaps, fighter planes with in-flight refueling are the only way to provide support to Taiwan, but with great difficulty. The same holds for U.S. bases in Alaska or on the U.S. Pacific coast. Even flying from Guam (with refueling) would take four hours each way. The Royal Australian Air Bases at Tindal and Darwin are also far away, roughly 4,423 km (2,748 miles) and would have to be rapidly augmented to be of any use.

In a long war, the U.S. could operate from all these locations, but in a flash conflict with little time to stage aircraft and stores, organizing a suitable response from far away is limited to long range bombers that would be tasked to attack



China's missile launch sites, naval deployments (including invasion forces) and Chinese military embarkation points.

To respond in time, U.S. bases in Japan (and on Okinawa) need better protection from Chinese missiles. The U.S. air assets are still superior to anything China has, but their bases and logistical support must be assured as much as possible.

Outside of fixed bases, the main American capability lies in its naval forces – surface ships, including carriers and nuclear-powered submarines. American submarine deployment information is rarely provided to the public for obvious reasons but given the rise in tensions from the South China Sea all the way to Korea, it is reasonable to assume that the submarine fleet is operating in the area and could be brought into action fairly quickly.

If China wanted to risk a general war with the United States, it could, simultaneous with a Taiwan invasion, attack U.S. air bases in Japan and on Okinawa and attempt to knock out the four U.S. naval bases in Japan. Could Beijing successfully create multiple Pearl Harbors, attacking U.S. assets preemptively?

Chinese Attack Options

The truth is we don't know what China's military plan of attack might look like. The U.S. carries out war games and prepares operational plans for a wide variety of possible contingencies; China certainly does the same. No one can say for sure what China's leadership may decide or what they expect for an outcome. Therefore, the only logical approach for the U.S., Japan and Taiwan is to prepare for a major contingency.

China has any number of options, some of them are already well advanced. For example, the constant crossing of air defense zones and provocations with fighter aircraft, bombers, and surveillance aircraft, as well as provocative military exercises, land and sea, conventional and nuclear, show that China is entering a pre-war testing period. China has circled Taiwan almost daily and has carried out air and sea exercises around Taiwan's claimed islands. It has also begun moving its fleet around, partly to challenge the U.S. presence along the First Island Chain, and partly to test reactions from the U.S., Taiwan, and Japan.

What China is doing is what the Israelis sometimes call "Making Facts." By constantly operating provocatively and across previous agreed limits, China has

succeeded in establishing operational dominance, since the challenges to these incursions have been weak and unsuccessful in putting any stop to their frequency and pugnacity. China learned when it illegally seized South China Sea Islands and reefs, despite a ruling against them by the International Court of Justice, that the action elicited no more than pro-forma responses from the countries that contested China's unwarranted claims of ownership. In particular the United States made no effort to challenge China's seizures.

Determining there was no counter force of importance, China took the next logical step and militarized those islands and reefs, creating an important choke point where China could block the control of goods, energy deliveries and U.S. and allied warships. Recent Chinese challenges around the Philippines and Vietnam also demonstrate China's intent to lock down the First Island Chain, both for strategic reasons and because there are natural resources, including oil, that China covets.

Still, China will need to make choices. In 1947 Mao set up a plan to invade Taiwan and finally dispose of his Nationalist (Kuomintang) rival, Chiang Kaishek. The plan had two parts – first to take over the islands closest to China, namely Quemoy (Kinmen) and Matsu and also seize Penghu. At the time, the islands were lightly defended, and the defenders were mainly the weakest remnants of the defeated Nationalist Army. Once Quemoy and Matsu were in China's hands, Mao planned to a final ultimatum to Chiang, or dispose of him and his forces.

Unfortunately for Mao, the operation against Kinmen, known as the battle of Guningtou Beach, failed. Almost all the PRC troops used in the attack were killed or captured. Many reasons are given for the failure – Chiang was able secretly to get reinforcements to Kinmen that helped turn the tide of battle; the Chinese could not get their whole force delivered to the beaches on time; the Nationalists did not cut and run, as the mainland rulers anticipated.

Today these islands are better fortified and bunkered in, making an attack difficult and costly.

It is difficult to predict the outcome if China today attacked Kinmen and the other islands close to China's mainland. Unlike the 1947 invasion and fight, today Taiwan has air power and a naval force that could put up a good fight. Having failed once, China would likely pay a considerable price for another attack.

Rebalancing East Asia

Over the years, the U.S. has reluctantly supplied Taiwan with weapons, but more often than not held back because of Chinese objections to arms sales to Taiwan.

That was always wrong. Washington, however has often seen itself walking a fine line, trying to balance good ties with China against Taiwan's urgent defense needs.

Recently some ground has been made up in improved deliveries of defense materials to Taiwan (all of which are paid for in full by Taiwan). Some of the equipment is new and up to date; other hardware, such as naval ships, are old, refurbished ones that are thirty years older or more. While the U.S. is now reluctantly helping Taiwan with submarine development, Taiwan has only two operational submarines manufactured in the 1980s, and one of them is under overhaul.

Taiwan's air fleet consists primarily of F-16s, Mirage 2000 jets and F-5s. Taiwan only got early model F-16 aircraft in 1991 when President George H.W. Bush approved the sale at the end of his administration. After that – in fact, until today – Taiwan has not received a single new fighter aircraft from the United States. The Obama administration approved a program to upgrade the old F-16s, and the Trump administration approved new F-16s for Taiwan, but it will be some time before they arrive.

When Taiwan requested the F-35 stealth fighter, the U.S. turned Taiwan down.

Meanwhile Taiwan has to anticipate fighting a Chinese <u>People's Liberation Army Air Force</u> (PLAAF; 中国人民解放军空军) that is far larger and has stealth aircraft (such as the <u>Chengdu J-20</u>), standoff weapons, BVR (Beyond Visual Range) air-to-air missiles and the modern radars.

China's Air Force has over 3,000 planes, of which more than 2,000 are modern fighters and bombers. By contract, Taiwan has around 400 fighter aircraft, with nearly half made up of obsolete F-5s and around 100 home-built CK-F1 fighters. Both the F-5s and CK-F1s were deliberately configured at U.S. insistence to have limited endurance ("short legs" in pilot jargon). Chinese jets have no limitations.

Since it may well be the case that Taiwan will meet the PLAAF in the skies before the U.S. can bring in its considerable resources, Taiwan should have its fighter force quickly upgraded and its air defenses improved so that China can understand there is no assurance it will win any air battle or succeeding in controlling the airspace in and around Taiwan (and Taiwan's islands).

Recommendations for the Biden Administration

We propose the following urgent policy recommendations that the Biden administration should implement to protect Taiwan from growing security threats from China.

1. Establish a Joint Command Structure (JCS) with Taiwan and Japan

An integrated Joint Command System does not currently exist that covers Japan and Taiwan. Japan cooperates with the U.S., although the degree of integration is not clear. The U.S. has more limited cooperation with Taiwan and Taiwanese military systems are not integrated with the U.S. command structure.

The lack of a Joint Command of the kind proposed here makes it extraordinarily difficult to coordinate a military response in a crisis, and leaves the players trying to respond piecemeal without a common defense strategy or tactical coordination. In this day and age and given the magnitude of the present-day threat from China, allowing each to fend for itself is irresponsible, risky, and could sink any effort to defend either Taiwan or Japan, should China decide to take out Japanese air and naval bases.

On a positive note, the potential to integrate U.S., Japanese and Taiwanese war fighting assets is made easier by the fact that all are using U.S. equipment. A good example is Link 16. Link 16 is the most widely used, secure, jam-resistant line-of-sight waveform and continues to serve as the tactical data link of choice for air-to-air warfare. Taiwan and Japan have Link 16.

A Joint Command System that is full-time staffed by representatives of Japan's Self Defense Forces and Taiwan's Army Command Headquarters and managed and led by the United States is essential. Full spectrum communications, including backup, real time sharing of radar coverage and intelligence are needed. Among other things it is absolutely important to ensure that friend or foe electronic systems (called IFF) are in place and codes can be securely shared. The Joint Command would have the task of coordinating priorities, sorting out targets, and responding to unfolding military developments.

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The U.S. Pacific Command (USPACOM) is the oldest and largest of the U.S. Unified Commands. However, aside from liaison with Korea and Japan, USPACOM's role is to coordinate U.S. military operations, not allied and friendly ones. USPACOM would need to include the proposed Joint Military Command for the Defense of Japan and Taiwan.

The Joint Military Command for the Defense of Japan and Taiwan should have a top U.S. Commander, similar to the Supreme Allied Commander for Europe (SACEUR) who is responsible for joint allied operations. While the proposed Joint Military Command lacks a comprehensive collective security framework like NATO, it can draw on the existing U.S.-Japan Treaty of Mutual Cooperation and Security and on the intent of the 1979 Taiwan Relations Act (Public Law 96-8, 22 U.S.C. 3301 et seq.). The Administration could by Executive Order or declaration reinforce the U.S. role in assuring regional security and supporting a Joint Military Command framework.

A Joint Military Command is an absolute necessity of there is to be a credible defense of U.S. and allied interests in East Asia.

There are no legal impediments to establishing a Joint Military Command. China most certainly will complain, but at this stage the complaints only make clear China's hostile intentions.

2. Improve Taiwan and Japan's Air Defenses

The common air defense platform for the U.S., Japan, and Taiwan is the Patriot Air Defense Missile System (MIM-104). There is a variety of Patriot platforms, equipped with different radars and interceptor missiles. Commonly, the Patriot platforms are categorized as PAC-2 or PAC-3 (PAC-1 is no longer fielded). PAC-2 covers air breathing and missile threats; PAC-3 is focused almost exclusively on missile defense and today is a still-evolving platform. Taiwan has the PAC-3. Japan has the PAC-2 and PAC-3 Patriot systems.

The Patriot is far from an ideal solution, but it can be quickly improved in two ways. First, the radars can be greatly improved, and the U.S. is already upgrading Patriot radars with a new generation that uses gallium nitride (GaN) to transmit and receive modules and with radar computing tasks moved out to the edge of the radar to enhance responsiveness. Modern radars need to identify a threat, sort out decoys and electronic warfare interference, and guide the interceptor missile to the target.

Considerable work is being done to improve Patriot's interceptor missiles, although to date the overall performance of Patriot, as seen for example in Saudi Arabia, has been less than optimal.

One new interceptor missile that could strengthen Patriot is called Stunner and was developed jointly by Israel and the United States.

Poland is getting Stunner (called SkyCeptor by Raytheon) that will be assembled in Poland and will be a third option for the Polish Patriots to slot in between the Raytheon-made MIM-104E Guidance Enhanced Missile-TBM (GEM-T) and Lockheed Martin Missile Segment Enhancement (MSE) missile models.

Stunner is part of Israel's Arrow III exo-atmospheric missile defense system which was <u>recently tested in Alaska</u> where it outperformed the multibillion dollar U.S. Ground Based Midcourse Interceptor, the best strategic defense system in the U.S. arsenal.

Use of Stunner will help ensure that Chinese missiles are destroyed before they get close to their targets.

The U.S. needs to encourage Japan to invest heavily in upgrading its Patriot air defenses, particularly since Japan dropped the AEGIS Ashore solution for its air defenses. Japan has six deployed Patriot systems (PAC-2 and PAC-3) plus a training system and has coverage over Tokyo and Okinawa.

Taiwan is augmenting and refreshing its PAC-3 Patriots and is purchasing an additional 300 intercept missiles. By 2027 Taiwan will have 650 interceptors. Just as in Japan, Taiwan's PAC-3 system can be upgraded by better radars and Stunner missiles.

For the U.S., the 38th Air Defense Artillery Brigade in Kanagawa prefecture oversees air and missile defense units on mainland Japan, Okinawa, and Guam. There are U.S. Patriot missile defense units at Kadena Air Base, Okinawa, and a Terminal High Altitude Area Defense, or THAAD, battery at Andersen Air Force Base, Guam. The U.S. Army says that the current air defense posture in Japan and Okinawa can be rapidly augmented. Given the increase in aggressive air operations by China against Taiwan and Japan, augmenting the U.S. air defense units is an imperative. Upgrades such as the ones proposed above for Japan and Taiwan need to be implemented.

It is increasingly urgent that the air defenses of the U.S., Japan and Taiwan need to be actively integrated, above all to make sure that they can operate selectively against targets and not shoot each other down. High level attention by the Pentagon is needed to put in place an integrated system and, wherever possible, to layer the defenses for maximum effectiveness.

3. Improve Taiwan's Airforce

Both Japan and the U.S. deploy front line fighter and fighter bomber aircraft including the F-35. The U.S. also has the additional asset of long-range bombers including the B-52, B-1 and B-2. Taiwan has old F-16's that are in the process of being upgraded with new radars and other systems. Taiwan has also ordered new model F-16's (F-16V) which are an order of magnitude improvement over the old F-16's and even better than the upgraded ones. But the F-16s are fourth generation (and in the case of the new models perhaps 4th Generation Plus platforms.) They are not stealthy.

The upgraded Taiwanese F-16's and the new ones on the way, used AESA (Active, Electronically Scanned Array) radars. Information from AESA radars can be shared among older aircraft, making it easier to coordinate targets and more efficiently counter threats. Moreover, the Taiwan AESA platforms could be electronically linked to Japan's F-35 platforms and to the U.S. Air Force, U.S. Navy and U.S. Marine's F-35s. Developing an effective radar coverage and target acquisition sharing system would be a significant force multiplier.

One serious threat is China's ability to target Taiwan's airfields with missiles, or even to expand their coverage over U.S. and Japanese runways.

Taiwan's fighter aircraft (including its home-developed CK-F-1 and French Mirage 2000's) need long runways. Taiwan's capability could be significantly reinforced if it had vertical takeoff aircraft. This would help checkmate China's strategy of trying to destroy Taiwan's airfields using missiles. The F-35B Lightning II is a STOVL platform – short takeoff and vertical landing – which could greatly enhance Taiwan's self-defenses and help immunize it from Chinese missile strikes on its airfields. The U.S. Marines are just starting to deploy these aircraft, replacing its Harrier AV-8B aircraft, which are also vertical takeoff and landing aircraft.

The U.S. has not committed to support Taiwan with any version of the F-35. It is important to quickly change that decision, but even if the U.S. agreed to offer them, it would take years for Taiwan to acquire them (unless acquisitions can be expedited by changing the sequence of orders or moving U.S. front line F-35s to Taiwan).

A short-term solution is to give Taiwan ex-Harriers retired by the Marines. These are front-line aircraft. They are not stealthy but are VSTOL (Vertical and/or Short Take-Off and Landing). To some degree the Harriers can be upgraded and can carry BVR air-to-air missiles. While not an ideal solution, Taiwan would gain an interim VSTOL and acquire a robust, operational aircraft. The Harriers could perform a key role in destroying Chinese naval combatants and any invasion fleet.

4. Improve Taiwan's Standoff Weapons

Long range standoff weapons are needed for the U.S., Japanese, and Taiwanese air forces. The U.S. is already deploying standoff weapons such as the Joint Standoff Weapon (JSOW) and the Joint Standoff Air to Surface Missile (JASSM). There are a number of standoff missiles under development and the U.S. Air Force is getting nuclear-armed standoff cruise missiles to counter China.

Taiwan has JSOW but not JASSM; Japan has neither. It is important to give both a strong stand off strike capability to carry the attack to China's missile launch sites, command and control assets, and assembly points for Chinese invasion forces. China has a strong anti-access and aerial denial (A2/AD) defense structure, but standoff weapons in sufficient numbers can neutralize China's air defense shield.

For the U.S., there are also promising developments such as the Long Range Anti-Ship Missile (AGM-158C LRASM) and the U.S. is working on an Offensive Anti-Surface Warfare anti-ship missile as a follow-on to LRASM to enter service in 2024.

American Policy going Forward

U.S. policy on China improved under the Trump administration in the sense that the State Department and Defense Department saw the threat coming from China as urgent. Much was done to strengthen the U.S. defense posture. Taiwan has also been investing more, and Japan is beginning to do so.

Perhaps the most important change was to stop trying to squeeze Taiwan to make a deal with China that would only result in Taiwan losing its independence.

Now the new Biden administration has a decision to make: Biden can continue the Trump policy and enhance it or revert to the older Obama policy of squeezing Taiwan. The Chinese clampdown on pro-democracy interests in Hong Kong has the made the Taiwanese people afraid that they will meet the same fate. The crackdown in Hong Kong is ongoing, dissidents are being arrested and jailed, and freedoms are curtailed. China is simply no longer honoring the deal made with the UK for Hong Kong to have a special status under the rubric "one country, two systems."

In developing its policy to address growing the growing threat from China, Biden officials must keep in mind that China:

- Has emerged as an aggressive expanding state aiming to control the first Island Chain and beyond.
- Has built up its military forces including acquiring a wide range of new weapons.
- Is exploiting its industrial base to produce weapons of war.
- Has been scooping up Western technology by legal and illegal means in a massive operation, leaving many of America's best defense systems, including stealth, compromised.
- Has penetrated American and allied universities, research and development centers and scientific and industrial associations to gain the benefits of research and development funded by the American people, and
- Has compromised leading scientists in the United States engaged in defense and commercial product developments in fields such as advanced materials, nanotechnology, advanced semiconductors, gallium nitride, artificial intelligence and medical sciences including biotechnology (which includes biowarfare).

The new administration must take China's growing aggressiveness into account to determine how it will handle technology and technology sharing, how it will act to push China out of American colleges and universities and out of R&D centers, and how it will strengthen cyber defense capabilities to stop the loss of America's technology that can harm our national security and that of our allies and friends.

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