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Home base

American technological system, then in real world terms, it is an American facility to which Australia has greater or lesser degrees of access.

These days Pine Gap has twice as many antennas as it did at the end of the Cold War, in a compound double its original size. Most importantly, far beyond its original mission, Pine Gap makes critical contributions to planning for nuclear war, missile defence of the US and Japan, US military operations in Iraq and Afghanistan and CIA targeted-killing operations by drone.

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Some important ADF facilities are becoming joint bases: the Australian Defence Satellite Communications Station near Geraldton in Western Australia, long a critical spying station for the Australian Signals Directorate, has three completely new elements for advanced US military satellite communications systems.

North West Cape, once an essential part of US nuclear missile submarine command, was subsequently rendered redundant by increased missile range, and handed back to Australia. It is once again a joint facility, this time critical in America's quest for what is called full-spectrum dominance in space.

Pine Gap

For the US, the jewel in the Australian crown is the Joint Defence Facility at Pine Gap outside Alice Springs. Originally built in the 1960s as a ground station for signals intelligence satellites capturing telemetry from Soviet missile testing, Pine Gap is now a much larger facility, serving two sets of intelligence collection satellites, one that captures electronic transmissions from space, and the other detecting the heat blooms of missile launches.

Pine Gap produces data from both systems which is mashed with other forms of imagery and human intelligence, and pumped out to all levels of the US military in Iraq and Afghanistan and for the CIA's targeted-killing drone operations.

The larger part of Pine Gap is a signals intelligence ground station for intelligence satellites in geostationary orbit over the Pacific and Indian oceans, sucking up huge amounts of electronic data from air, sea and ground transmissions of missile tests (including those of North Korea, China, Russia, India, Indonesia, Japan, Malaysia, Pakistan, Singapore, and South Korea), and from military radars, microwave transmissions, mobile phones and satellite phones.

Pine Gap is one of three control and command stations for the geostationary signals intelligence satellites – the others being at Buckley Air Force Base in Colorado and Menwith Hill in Yorkshire, Britain. The Pine Gap station downloads and processes large amounts of data from satellites hovering over the equator above south-east Asia and the Indian Ocean, covering the areas of greatest US military interest in China, Afghanistan and the Middle East.

Labor and Coalition governments since the 1980s have justified the risks of hosting Pine Gap because of its signals intelligence contribution to arms control verification: only the ability of Pine Gap to monitor Soviet missile telemetry allowed the US to be certain the other side was not cheating. "No Pine Gap, no arms control," was a mantra first spelt out by Bob Hawke. Of course, these days there is precious little arms control negotiation to be monitored. In any event , the logic of the arms control verification requires the adversary to have comparable verification facilities – which they don't in China's case.

Most controversially, Pine Gap's signals intelligence capacity provides telephone intercepts and location intelligence for drone assassinations – extra-judicial killings in legal language – in countries with which neither the US nor Australia are at war, including Pakistan, Somalia and Yemen.

These mixed blessings are also inherent in Pine Gap's second role as a ground station for thermal imaging satellites in geostationary orbit, following the closure of the South Australian base at Nurrungar for US early warning satellites in 1999. For the past decade and a half, the antennas of the Pine Gap remote ground station have been growing as a new constellation of vastly more powerful thermal imaging satellites comes on line. Essentially extraordinarily powerful infra-red telescopes on satellites 36,000 kilometres above the earth's surface, these Defense Support Program (DSP) and Space-based Infra-red System (SBIRS) satellites not only instantaneously detect the heat blooms of missiles that might be launched against the US, but also detect the launch of ship-to-ship missiles at sea, the engine plumes of jets in flight, and explosions and fires on the ground.

These satellites tie Australia to US nuclear planning. In the event of nuclear war, whoever should fire first, DSP and SBIRS satellites will warn the US of an incoming attack. But they will also provide the information as to which enemy missile silos are now empty, and which should be targets in a US second strike.

However, even short of that doomsday scenario, Pine Gap plays an indispensable role in the protection of Japan and its US bases from attack by North Korea or China by cueing the US-Japan ballistic missile defence system in the western Pacific. The satellites detect the initial launch of missiles, send the data to Pine Gap, and then cue US and Japanese missile defence radars to search a very small and specific part of the sky over the Pacific. With that data, the American and Japanese Aegis-class destroyers and their powerful radars, plus their land equivalents, have a reasonable chance of guiding their own missiles onto the incoming enemy missiles hurtling through the upper atmosphere or the edge of space at tremendous speeds. Without Pine Gap's contribution, those chances diminish rapidly.

The problem with this missile defence system protecting the US and Japan originates from the topsy-turvy logic of the world of nuclear strategy. China has long been concerned that the object of US and Japanese missile defence is not only North Korea, but also China's own small but potent nuclear deterrence capacities. In Chinese eyes, missile defence turns out to have a highly offensive role which undermines what little strategic stability there is in the dangerous world of nuclear deterrence.

China fears, with some justification, that US and Japanese missile defence dependent on Pine Gap may be able to destroy most, if not all, of China's nuclear missiles in flight, thereby vitiating China's nuclear deterrent force, and leaving the country vulnerable to nuclear blackmail by the US.

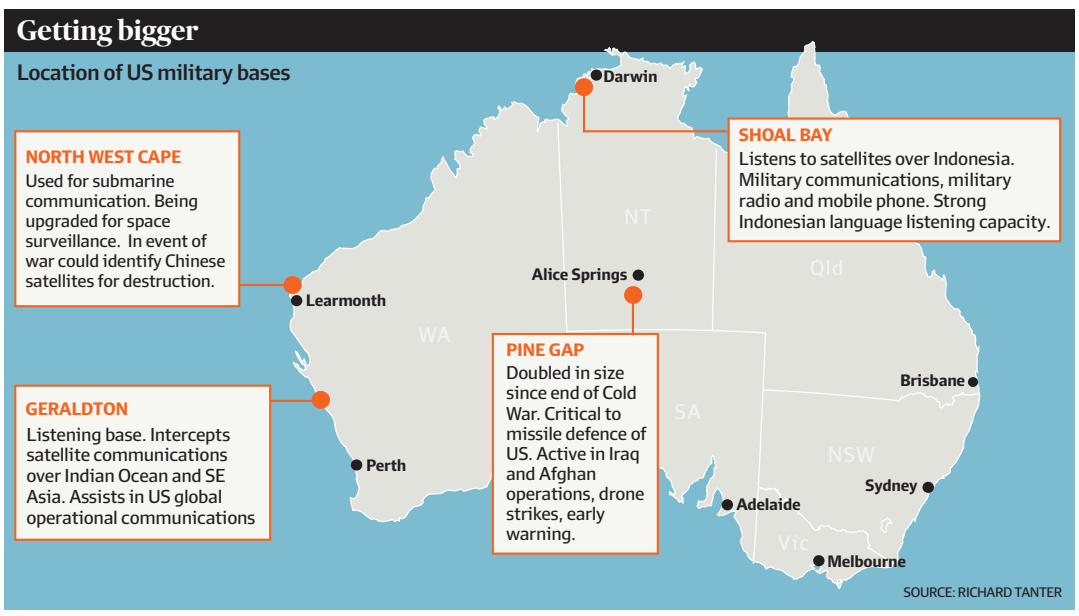
Unsurprisingly, after decades of minimal missile development, China is rapidly modernising and upgrading its strategic nuclear missile capacities in response to what it sees as the offensive consequences of American missile defence.

North West Cape

North West Cape is a peninsula in the northwest of Western Australia. It has been home for more than five decades to the US-built Naval Communication Station Harold E Holt, and was crucial for communicating firing instructions to Polaris nuclear missile submarines until the 1980s. Once newer submarines with greater nuclear missile range made that requirement redundant, the base was turned over to Australia. All that is changing again, albeit in the name of the global public good of protecting the satellites we depend on from collisions with space junk – as in the film *Gravity*.

The latest advanced US high-tech space surveillance telescope is being deployed to North West Cape. So too is a space radar from an island on the Cape Canaveral launch range. Their task is to find, identify and track unknown objects in orbit, especially those in geostationary orbits over the equator, and particularly those only visible from the southern hemisphere. The Australian operators of the American radar and telescope send their data, on both space junk and Chinese and Russian military satellites alike, to the US Joint Space Operations Centre within the United States Strategic Command, or USSTRATCOM.

If major war should break out between the US and China, blinding China's space and air surveillance assets is a fundamental US task if US Navy carrier task groups are to operate in the East and South China seas



Above: Pine Gap's role in US nuclear missile defence strategies and drone assassinations makes it more controversial than ever as a potential target and risk for residents in nearby Alice Springs.