

AIRCRAFT, PANAMA AND THE CANAL ZONE DURING THE WAR

PART 1

Note: though undoubtedly an “aircraft”, I do not propose to discuss the role of the Navy’s airships, or “blimps”, here. I intend to consider them separately.

The airfields and brief details of each specific aircraft type will also have to wait for a later essay.

While it was obvious in the 1930s that aviation was not yet sufficiently developed to permit a direct aerial assault – whether by bombing or by troop-carrying aircraft – on the Continental US or the Panama Canal, this did not mean that, for the Canal Zone at least, such an attack could be entirely ruled out. Although an enemy military aircraft could not reach the Canal Zone (unless the enemy was another Latin American country), the attack could come from the sea, and the development of naval aviation made this increasingly more likely as the interwar years progressed.

Alternatively, the attack could be mounted from neighbouring countries in Central and South America, which could be used as launching pads. After all, much of nearby states (including the Republic of Panama itself) was underdeveloped at the time, with expanses of largely uncharted jungle – and during the 1930s there would be growing German influence, and sympathy, in several Latin American states (and in 1940, the new President of Panama himself would be rumoured to have pro-German sympathies).

There had always been an air presence in the Canal Zone¹, but by the time the US entered World War 2 the size and importance of air forces – Army and Navy – would have

¹ The first US air unit, the 7th Aero Squadron, had arrived in Panama in 1917, being assigned to the Panama Canal Department, the US Army corps command. During World War 1, the squadron was used on U-boat patrol from Cristobal, the port near Colón at the Atlantic end of the Canal. It was commanded by a Captain H H Arnold - the later General “Hap” Arnold, the World War 2 USAAF commander and its only five-star general. During World War 2, the successor to the 7th Aero Squadron served as a reconnaissance unit until 1942, when it was redesignated as the 397th Bombardment Squadron. It served as a bomber unit in World

increased considerably (although still deemed to be inadequate), and would continue with greater importance as the war progressed. This growth reached its peak in 1943-44, as the threat to the Canal diminished (although ironically just as the Japanese were plotting a direct attack on the Canal using seaplanes launched from large submarines).

In the early 1930s, the Drum Board, a special committee of the Army General Council², had concluded that US air power lagged dangerously behind that of other world powers, and called for a significant expansion of its combat strength and basing facilities³. By the mid-1930s, the importance of the defence of the Canal can be judged by the fact that some 20% of the USAAC establishment was based in the Canal Zone, with the units there among the few that maintained 100% of their authorised strength.⁴

Nevertheless, the air defences of the Canal Zone were recognised as being inadequate in the late 1930s⁵, and this remained the case for some time even after the US entered the war, despite the supply of additional, and more modern, fighter aircraft, more long-range patrol aircraft to detect an approaching enemy force at distance and radar.

The USAAC in the Canal Zone had two major tasks to perform - an offensive one, a striking force to destroy enemy vessels that approached the Canal, and providing a defensive force to combat air attacks. It became obvious that having to concentrate defensive forces in as small an area as the Canal Zone was a crucial problem, and to better protect

War 2 and was deactivated at Rio Hato Army Air Base in November 1946 – having served in the role of defending the Canal from 1917 to 1946.

² The Drum Board was a panel of five generals and was formed in August 1933 by the General Staff to propose recommendations planners for development and expansion to meet defence needs. A force of 2,320 aircraft was recommended by the Drum Board (to maintain the levels of serviceable aircraft necessary under war plans), and authorised by Congress in June 1936, but appropriations were denied by the Roosevelt Administration until 1939, when the probability of war had become apparent. Instead, the USAAC inventory actually declined to 855 total aircraft in 1936, a year after the creation of GHQ Air Force in the Continental USA, which itself was recommended by the Board to have a strength of 980 machines.

³ <https://weaponsandwarfare.com/2019/11/18/panama-canal-zone-defences-ii/>

⁴ *P-38 in Latin America* by Dan Hagedorn (Aviation Art & History, 2022).

⁵ This was clearly illustrated as long before as in 1929, when the Navy mounted a successful mock attack, with the USAAC being unable to intercept or counter the attack (despite knowing that the attack was coming and the size and aims of the force).

the Canal and its approaches additional bases would be required⁶, both in the rest of Panama and in surrounding countries and during the war there were numerous bases in use throughout Panama, and in other countries nearby, and as far away as the Galapagos Islands.

Panama was not seen as an easy posting for pilots in terms of the difficulties they faced there. In 1938, the Commanding General, General Brett, who had considerable experience flying throughout the Continental US, said that he felt that there were no conditions in the US that in any way, shape or form approached the flying hazards experienced in Panama on normal flights.⁷ Added to this was the poor condition, especially in the rainy season (which was the greater part of the year), of many or most of the secondary airfields and landing strips that might be used. These latter landing fields were very much seen as “emergency” airstrips, even those municipal fields at a number of towns in the Republic. In some cases, the landing grounds were regarded in the rainy season as “treacherous”.⁸

While tensions with Japan had been rising from around 1933, it was only after the Munich Crisis of 1938 that substantial funds became available to improve air defences in the Canal Zone⁹. In 1939, the US Army Air Corps (USAAC) requested \$23 million from Congress to improve air power in Panama in a defence programme laid before the US House

⁶ In fact, a permanent airfield, Albrook Field, at the Pacific end of the Canal was only constructed during the 1930s. It had been apparent that concentrating all of one’s air resources at the Atlantic end of the Canal (at France Field, and with the Navy base was also at the same end), with the Army’s headquarters and administration perhaps 50 miles (80.4 km) away in Balboa was unwise. This was particularly the case as, aside from the Canal itself, the only other means of travel, aside from flying, between the two ends was using the single-track railway. In 1935, the Army acquired a lease to use the airfield at Rio Hato in Coclé Province in Panama Oeste, about halfway between Panama City and the Costa Rican border. The airfield at Rio Hato had been first established in 1931 and, during World War 2, it was expanded it to become a major airbase housing bomber and fighter aircraft. The acquisition of Rio Hato had been the first major formal lease of land by the military outside the Canal Zone (as opposed to forced acquisition of territory that was allowed under the 1903 Treaty prior to the 1936 amendments).

⁷ *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

⁸ Ibid.

⁹ The Secretary of War, in a report to President Roosevelt, had called for the air forces and anti-aircraft defences to be augmented, and the Canal be made “impregnable”.

Committee on Military Affairs¹⁰. During 1939, and the first months of 1940, Army engineers began work¹¹. Additional funds for improvement of defences followed, with the bulk of the improvement programme being completed by early 1942, an exception being some outposts, including airfields, outside the Canal Zone¹².

As the US Army had the primary responsibility for defending the Canal Zone, the chief air arm employed was the USAAC (which became the US Army Air Force or USAAF from 1941). The US Navy also had a presence, with a flying-boat base at Coco Solo (aka Naval Air Station Upham) having been first established during World War 1. As with the Army, the Navy's aviation presence would increase during the war.

In 1939, there were complaints of other Army elements making too many demands on the USAAC, resulting in a disruption of training and a severe strain on equipment, and in servicing problems that might not be capable of being dealt with locally due to the small size of the Panama Air Depot maintenance centre at Albrook Field and the lack of suitable labour. The missions complained of involved included target-towing for artillery tracking, searchlight practice, anti-aircraft practice, observation of field and coastal artillery practice, familiarisation flights and use during field exercises etc. In Fiscal Year 1939, the local USAAC commander estimated that only 10% of such flying could really be regarded as training for the air units involved.¹³

If an enemy attack had been mounted on the Canal Zone in September 1939, official records said that the resident USAAC 19th Wing would have provided little worthwhile opposition. Its actual complement was less than half that required and permitted – it had

¹⁰ <https://media.defense.gov/2015/Apr/02/2001329844/-1/-1/0/AFD-150402-022.pdf>

¹¹ https://history.army.mil/html/books/010/10-6/CMH_Pub_10-6.pdf

¹² It was only in 1942 that a bases agreement was signed with the Panamanian Government allowing for the expansion in defence sites outside the Canal Zone, and that agreement only took effect from 1943.

¹³ *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

two pursuit (fighter¹⁴), one bomber, one attack, two reconnaissance and two airbase squadrons. Between the two main bases, Albrook Field and France Field, there were just 33 Douglas B-18 Bolo bombers¹⁵, 14 Northrop A-17 two-seat attack monoplanes and 24 of the obsolete Boeing P-26A Peashooter fighters. The 30 additional Curtiss P-36A Hawk fighters that were then arriving to replace the P-26A would take the number of tactical aircraft available to the Wing to 102. In any case, while the 19th Wing had an authorised strength of 75 officers and 1,390 enlisted men, it was operating at reduced strength due to a lack of replacements

In 1939, concern over the poor state of the air defences in the Canal Zone led to 30 brand-new P-36A Hawk fighters¹⁶ being flown down to the Canal Zone to reinforce the air garrison after hurried arrangements were made to allow overflights of Mexico and Central American Republics¹⁷ (a similar mass deployment of 80 of the later Curtiss P-40 Warhawk would take place in 1941, to replace the P-36A). This represented a substantial improvement on the fighter forces available. The P-36A replaced the obsolete open-cockpit P-26A Peashooter, which had comprised the most modern fighter type in the Zone.¹⁸

The immediate objective was to have, by January 1940, two pursuit, a bombardment and two reconnaissance squadrons to be effective¹⁹. The USAAC commander also pressed for naval patrol bombers (which, until 1943, would have to be flying-boats, due to the restriction on the Navy operating land-based combat types), and for his command to

¹⁴ The USAAC persisted in calling fighters “pursuit” types, and fighter squadrons “pursuit squadrons”. The new USAAF in 1941 changed the reference to “fighter”.

¹⁵ At the start of 1939, the 19th Wing had as its bomber force 28 of the obsolescent Martin B-10B twin-engine bombers, but these were replaced by June 1939.

¹⁶ 27 actually arrived, three being lost *en route*.

¹⁷ <https://www.ibiblio.org/hyperwar/USA/USA-WH-Guard/USA-WH-Guard-12.html>

¹⁸ It was complemented by the even more obsolete Boeing P-12E and P-12F biplanes: *Panama Canal defenders: Camouflage and Markings of US Sixth Air Force and Antilles Air Command 1941-1945 – Volume 1: Single-engined Fighters* by Dan Hagedorn (Model Centrum PROGRES, 2021).

¹⁹ *Air Defense of the Panama Canal, 1 January 1939 – 7 December 1941* (Army Air Forces Historical Office), January 1946: <https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

receive land-based long-range four-engine bombers²⁰ – specifically asking for what became the Consolidated B-24 Liberator, a request that would only be met midway during the war.

An article titled “*Panama is Defenseless*” by Colonel Billy Mitchell²¹ that had appeared in a popular aviation magazine in 1929, was widely reprinted in 1940 and helped to spur the assignment of additional air units. The vulnerability of the Canal Zone to enemy attack at the time was unquestioned and the Canal, seen as a critical national asset, was one that had to be protected.²²

During the early months of 1940 the whole subject of Canal air defence was re-examined by the War Department, and with USAAC expansion underway the 19th Wing was reorganised as the Panama Canal Department Air Force in November²³, headquartered at Albrook Field and acting as a major command of the USAAC for units based and around the Canal Zone. In turn it provided a nucleus for what became the Caribbean Air Force in the August 1941²⁴.

²⁰ During the war, what became the 6th Bombardment Group was to use various bomber types – the famous Boeing B-17 Flying Fortresses (though these would then be withdrawn as needed more urgently elsewhere), the B-18, B-24 and LB-30 Liberators, as well as Piper L-4E Grasshoppers light aircraft (a military version of the highly successful Piper Cub two-seat lightplane) for liaison and communications duties). It was disbanded in the Canal Zone on 1 November 1943, and subsequently reconstituted on 29 June 1944 and consolidated as the 6th Bombardment Group (Very Heavy) as a B-29 unit for use against Japan

²¹ Mitchell had already found fame (or notoriety) after World War 1 by championing the vulnerability of battleships to bomber aircraft, and carrying out attacks on captured German warships to prove the point.

²² *Alae Supra Canalem: Wings Over the Canal* by Dan Hagedorn (Turner) 1995:

<https://www.historynet.com/book-wings-over-the-canal-dan-hagedorn-avh.htm>

²³ There was always confusion about the correct title. It sometimes being referred to as the Panama Air Force, the Panama Canal Air Force, or the Caribbean Defense Air Force. Even its official letterhead bore an incorrect title, as “Headquarters, Panama Canal Air Force”:

<https://www.afhra.af.mil/Portals/16/documents/Studies/1-50/AFD-090602-096.pdf>

²⁴ In February 1941, the Commanding General of the Panama Canal Department was also made commander of the Army’s new Caribbean Defense Command (CDC), which incorporated responsibilities in various British Caribbean possessions which the US had acquired under Lend-Lease, the separate Caribbean Air Force, also an Army command, was established at the same time. The Caribbean Air Force had responsibilities across all the sectors for which the CDC had responsibility, which included Ecuador, Colombia and Central America south of Mexico.

https://media.defense.gov/2010/Nov/05/2001329898/-1/-1/0/aaf_wwii-v1-2.pdf

The Caribbean Air Force was part of the overall Caribbean Defense Command and became a part of the newly constituted US Army Air Force (USAAF, which the former USAAC had been reorganised as in 1941). It then went on to become the Sixth Air Force in September 1942²⁵, retaining that title until 1946. The Sixth Air Force served as a command with responsibility for all USAAF operations in the Caribbean and Central and South America²⁶. In Panama itself, the Caribbean Defense Command remained the senior US Army headquarters from 1941 to 1947, with a USAAF component being the Caribbean Interceptor Command (renamed later in 1941 as the 6th Interceptor Command, as part of the Sixth Air Force).

In 1941, the perceived danger to the Canal saw priority given to sending nine additional Boeing B-17 Flying Fortress heavy bombers, together with fighter reinforcements provided from within the Caribbean Defense Command (with the transfer of 25 Curtiss P-40 Warhawks from Puerto Rico - a movement completed on 14 December). By the end of the year, 80 additional P-40 fighters had arrived in Panama and, to avoid the repeat of the destruction of the aircraft that had been neatly lined up at Pearl Harbor, aircraft were dispersed, and protective revetments²⁷ were built and camouflage employed wherever possible.²⁸

To illustrate the overall state of the USAAC in 1941, at the end of March, in the Continental US it had 543 combat aircraft, of which only 38 were considered first-line types. Total aircraft strength of the USAAC was 4,975 aircraft, with over half of them being trainers. Of the 1,617 combat types in service (many in the overseas commands - Panama, Hawaii, and the Philippines) the great majority were obsolescent. Under the

²⁵ In 1946, it was again renamed, as the Caribbean Air Command. Later, from 1963 to 1976, US Air Forces Southern Command was to have its headquarters at what had become by then Albrook Air Force Base: https://military.wikia.org/wiki/Albrook_Air_Force_Station

²⁶ The Sixth Air Force, as part of the Caribbean Defense Command, operated over the same area of control as that Command.

²⁷ A revetment is a parking area for one or more aircraft that is surrounded by blast walls, which protect surrounding aircraft as well as the aircraft within the revetment.

²⁸ <https://www.ibiblio.org/hyperwar/AAF/I/AAF-I-8.html>

5,500-airplane programme adopted in 1939, the USAAC was supposed to have by June 1941 a total of 1,900 first-line aircraft. However, for several reasons this goal was not achieved, although aircraft production would soar as the war continued.

At the time of the attack on Pearl Harbor on 7 December 1941, there were no less than five squadrons of P-36A in Panama, three at Rio Hato on the Pacific Coast of the Republic and two at Albrook Field near Panama City. These had to not only perform patrol and air defence duties, but also to prepare crews for transition to the Bell P-39 Airacobra and the P-40 fighters that had been promised. Some pilots struggled to cope with the relatively high-performance P-36A²⁹ and its retractable gear, a very different type from their Boeing P-12 biplanes and even the P-26A.

Following the Pearl Harbor attack, President Roosevelt signed an Executive Order on 13 December 1941 directing the Secretary of War to take possession (impress) of any portion of any civil aviation system required in the war effort. A number of privately-owned aircraft would be impressed in Panama, including the C-79, the only German-built Junkers Ju 52/3m trimotor in the USAAC.

The first major wartime function of the USAAC was in undertaking anti-submarine patrols in the Caribbean and Gulf of Mexico. This would involve advance bases, bases and operations which extended out from Panama as far as the Galapagos Islands and Peru on the Pacific side and Cuba and Dutch Guiana in the Caribbean – and even to Brazil, where it was necessary to protect the transatlantic services to North Africa. Despite the Air Task Force formed by the Army and Navy in Panama having had all available locally-based Consolidated PBV Catalinas flying-boats assigned to it in September 1941, the ability of the Navy to mount patrol missions was handicapped by a shortage of aircraft, and the USAAC

²⁹ The P-36 had been a commercial success for Curtiss, being bought by the USAAC as well as several export customers, including the French *Armee de l'Air* (part of whose order ended up with the RAF). However, it was outclassed by subsequent Allied and Axis designs, but the basic design was developed into the much more successful P-40 Warhawk.

continued to have to assign its own bombers for patrols for some time afterwards. The USAAC/USAAF was to replace the shorter-range B-18 with the very long-range Consolidated Liberator for the patrols³⁰.

However, throughout the entire course of the war the Sixth Air Force engaged in only two combat engagements against U-boats in the Caribbean, damaging one in July 1942 and sinking another in August 1942. The bulk of its patrol operations were conducted without major contact with the enemy, and its war passed relatively quietly in and around Panama.³¹

After 1943, the Sixth Air Force, by then the region having become something of a backwater, evolved into something more of a training command. Nevertheless, by now it was receiving the appropriate aircraft types, and in sufficient numbers, including the long-awaited P-38. The XXVI Fighter Command of the Sixth Air Force reached its peak strength in May 1944, having despatched fighters in no less than 4,300 sorties in 1943³².

However, on 23 September 1944, the War Department told the Caribbean Defense Command to store all “excess” aircraft that the Sixth Air Force had waiting for disposal at the Panama Air Depot (the arrival of large numbers of P-38 fighters at this time was causing storage problems, and hampering necessary maintenance operations).³³ From 15 November to 16 December, the Sixth Air Force waited for approval for the disposal of excess, unwanted aircraft by sales or salvage. In fact, there was a total of 237 aircraft chosen as excess that were waiting for the disposal through sales or salvage³⁴.

³⁰ It used both B-24 models and the LB-30, which had originally been ordered for delivery to the RAF but then requisitioned for US forces use.

³¹ <https://weaponsandwarfare.com/2019/11/18/panama-canal-zone-defences-ii/>

³² *P-38 in Latin America* by Dan Hagedorn (Aviation Art & History, 2022).

³³ <https://jewlscholar.mtsu.edu/server/api/core/bitstreams/25d785ba-305a-4781-8a47-015a9951b1f0/content>

³⁴ <https://jewlscholar.mtsu.edu/server/api/core/bitstreams/25d785ba-305a-4781-8a47-015a9951b1f0/content>

By December 1944, the Sixth Air Force having evolved into what amounted to gigantic operational training unit. This role included operational training of the 1st Brazilian Fighter Squadron, equipped with the P-40K, which unit was still being technically assigned to Canal Zone defence though with mainly Brazilian pilots.³⁵ In May 1944, the Brazilian squadron was declared operational and became active in the air defence of the Canal. However, it left in June to travel to the US to join the First Air Force at Suffolk Army Air Field, New York and re-equip with Republic P-47D Thunderbolts. The unit then left the US in August 1944 for the Mediterranean theatre, where it served as an element of XXII Tactical Air Command, being deployed to Italy later in the year^{36,37}

As the war progressed, the P-40 Warhawk had been largely supplanted in fighter units by the Bell P-39 Airacobra and, finally, from January 1945, the twin-engine Lockheed P-38 Lightning. In fact, the Sixth Air Force had been lobbying for the P-38, citing the safety advantages of having two engines when pilots were engaged in flights over jungle expanses or the ocean. Despite having requested the P-38 for so long, it did not enjoy a long service in Panama, being declared surplus soon after the war's end, disposed of, and replaced from 1946 by another single-engine type, the Republic P-47N Thunderbolt.

To June 1945, monthly reports gave authorisation to salvage several aircraft and to sell a few to the Venezuelan and Nicaraguan governments, the local Ciricana Aviation Company, and a few independent individuals. A total of 127 aircraft were removed from the Sixth Air Force inventory with only a minimal number remaining for disposition. A check was to be conducted to see if they were needed in another part of the country and, if not, they could be disposed of immediately³⁸ - many, like a large number of P-38, would be trashed

³⁵ *Panama Canal defenders: Camouflage and Markings of US Sixth Air Force and Antilles Air Command 1941-1945 – Volume 1: Single-engined Fighters* by Dan Hagedorn (Model Centrum PROGRES, 2021).

³⁶ <https://www.defesanet.com.br/aviacao/noticia/695/Dia-de-Aviacao-de-Caca---Parte-1/>
<https://media.defense.gov/2010/Nov/05/2001329891/-1/-1/0/AFD-101105-019.pdf>

³⁷ <https://media.defense.gov/2010/Nov/05/2001329891/-1/-1/0/AFD-101105-019.pdf>

³⁸ *Ibid.*

and then dumped in the Bay of Panama – Panama lacking a significant recycling or recovery industry.

Postwar, the Sixth Air Force was redesignated as the Caribbean Air Force in 1946 and, remaining based in Panama, it became the USAF Southern Command in 1963, lasting until 1 January 1976, when it was replaced by the Southern Air Division of USAF Tactical Air Command.

THE 20th TRANSPORT SQUADRON

There was one USAAC/USAAF unit that was present in the Canal Zone from 1940 to the end of the war, starting with next to nothing, but eventually proving to be a vital component in the defence and operations in the whole region, and this was the 20th Transport Squadron.

In 1937, Army long-range plans for aviation called for the formation of a GHQ Air Force group of 3 squadrons in the Continental US with one flight for each USAAC station, and the activation of one squadron each in Panama and Hawaii. Starting with a single Douglas C-33 twin-engine transport (a version of the DC.2 airliner³⁹), and then a hodgepodge of various impressed types, including the aforementioned Junkers trimotor, before finally receiving the ubiquitous Douglas C-47 Skytrain and, later, some of the larger Curtiss C-46 Commando transports.

The squadron was activated in 1940 at France Field (but having no aircraft until February 1941), and it became operational in March 1941, with its first aircraft, the single C-33 (making daily flights to Albrook Field and Rio Hato). Gaining further aircraft, it was involved in the build-up of the outer ring of air bases throughout the Caribbean and, by

³⁹ The DC.2 was the predecessor of the more well-known, more successful DC.3, which became the C-47 Skytrain/Dakota.

the time of Pearl Harbour it had six ex-airline Douglas C-49 Skytrain⁴⁰ which had arrived from the US.

It would operate a mix of aircraft, including the Army's sole Junkers Ju 52/3m airliner (as the C-79); a Boeing XC-105 (which was a modified pre-war XB-15 experimental long-range bomber); an Akron-Funk UC-92 (an ageing pre-war single-engine type intended for use as a utility transport); a Hamilton UC-89 Metalplane (another obsolete type, a single-engine eight-seat airliner, impressed from a local Panamanian airline); two Luscombe UC-90 (a light cabin monoplane, impressed from the same local source as the UC-89); and a Stinson Model A trimotor airliner that became the sole UC-91 in the USAAF. There was also another rare type, an Italian-built Savoia-Marchetti SM.83 airliner (impressed from the Italian Latin American Airline (LATI) after being seized in Chile) – a three-engine monoplane like the Junkers, it arrived for use by the squadron but was not actually used for any operational missions. However, the squadron did also use OA-10 Catalina amphibians (an Army version of the Navy's PBY flying-boat).

However, by 1943 the squadron had either lost or disposed of the OA-10, C-79, UC-89 and UC-91, but had by then acquired that other oddity – the XC-105. It had also received its first Douglas C-47A and its first Fairchild UC-61 Forwarder (another single-engine light utility transport).

Light aircraft such as the UC-90 (both of which, surprisingly, survived in USAAF service to the end of the war) were used as "hacks", for such use as courier and communications aircraft operating between the various airfields in Panama and the Canal Zone. They would also be used to maintain basic pilot proficiency.⁴¹ Given the lack of good roads in many parts of Panama, such communications aircraft were important.

⁴⁰ Commercial DC.3 airliners impressed for use by USAAC.

⁴¹ http://cfiamerica.com/Military_Luscombe_UC-90A_and_UC-90.html

During the early part of the war one flight from the squadron was detached to work with the airborne forces of the 501st Parachute Battalion and 550th Airborne Infantry Battalion, which comprised the Panama-based regional rapid deployment force (and this work included planning for a proposed landing in Vichy-held Martinique in 1943).

In January 1944, the squadron was redesignated as the 20th Troop Carrier Squadron (Special), and 1944 saw some increased standardisation of types used, with the C-47A and some of the larger C-46A Commando transports being received.

Postwar, continuing as the transport arm of the Caribbean Air Command, the squadron was re-equipped with the larger, four-engine Douglas C-54 Skymaster in 1946 and the Fairchild C-82 Packet, a dedicated military transport with removable rear loading doors, in 1948.

The squadron relocated from Panama to Texas in September 1948, leaving all its aircraft (except for a detachment of C-54, which went to Europe to take part in the Berlin Airlift). In 1949, the squadron and all of its aircraft finally left Panama, but it would be deactivated in October 1949 due to military budget cuts.

THE NAVY

As we have seen, the defence responsibilities of the Army, in terms of its aviation component, was to within the range of its medium bombers – so as to be able to attack any enemy force within range. It was a Navy responsibility to patrol the coastal zone, and the sea approaches to either ends of the Canal, and to protect shipping within these areas – the Panama Sea Frontier.

The Panama Sea Frontier patrol and threat area covered both Pacific and Caribbean regions. It stretched from the Mexico/Guatemala border out to the Galapagos Islands and down to a point at 5° of latitude on the coast of South America. On the other side, it stretched from the Mexico/British Honduras border to Punta de Gallinas in Colombia on the north coast of South America, and around 90 miles (144.8 km) west of Aruba. Hence the Panama Sea Frontier encompassed the coastlines of British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama and Colombia.

The 15th Naval District based in the Canal Zone was the Navy command⁴², and it had a flying-boat base at Coco Solo near Colón, Naval Air Station (NAS) Upham⁴³. In fact, the site had been first established in 1918 as a Naval Air Station for seaplanes and flying-boats.

In 1938, the Hepburn Board⁴⁴ had recommended an increase in the Navy's air component in the Canal Zone, sufficient to accommodate no less than seven squadrons of patrol aircraft (which, due to the restriction on using land-based types, meant flying-boats), with a supporting establishment capable of complete engine overhaul, and the establishment of a further naval station at Balboa, on the Pacific end of the Canal, to support the work of the District's submarines, destroyers, and smaller craft. Congress approved the base programme as recommended in May 1939, and partial financing was provided in the 1940 Appropriation Bill. Development of the bases recommended by the Board began immediately, and early contracts were awarded in June and July for work in the Canal Zone⁴⁵.

⁴² Which, during the war, was to come under the 10th Fleet for the Caribbean region as a whole, and including the northern coast of South America.

⁴³ It has been suggested the US Navy did not like the idea of NAS Coco Solo ("One Coconut").

⁴⁴ This Board was established in 1938 and reviewed America's national defence structure during the deteriorating international situation. The "Hepburn Board Report" was the basis for the massive Shore Establishment expansion that took place prior to World War 2. The Report was published in December 1938.

⁴⁵ https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html

Initially work was devoted primarily to enlarging the air station and submarine base at Coco Solo and constructing housing and a new office building at Balboa for the administrative offices of the District. The scope of the contracts was enlarged considerably during the pre-war period, as defence plans for the Canal Zone as a whole were broadened and new installations authorised.

Also in 1938, the Vinson Bill proposed the first major expansion of the US Navy since World War 1, including an increase of 20% in the number of ships and an increase of the Navy's aircraft strength to 3,000 aircraft. Following this, the Two Ocean Act of 1940⁴⁶, also introduced by Representative Carl Vinson, would call for even more massive increase in Navy strength, including up to 15,000 "useful" naval aircraft.

In early 1940, the General Board of the Navy and the Army-Navy Joint Board had studied the subject of the defence of the Pacific approaches to the Canal and reached the conclusion that preparations must be made for the operation of constant air patrols over the Pacific approaches (which lacked the numerous islands of the Caribbean which provided bases and hence some protection). It recommended that patrol squadrons of seaplanes (by which it meant flying-boats), supported partly by tenders and partly by shore installations, be based near Guayaquil on the Ecuadorian coast, in the Gulf of Fonseca in Nicaragua, and in Ecuador's Galapagos Islands, with the latter as a key installation⁴⁷.

Despite the recommendations of the Hepburn Board, and the implementation of those which were underway, at the time of the attack on Pearl Harbor on 7 December 1941 there were just 12 Consolidated PBY Catalina flying-boats in the Canal Zone, with their

⁴⁶ Aka the Seventy-Percent Act, the Vinson-Walsh Act or the Second Naval Expansion Act: <https://usnhistory.navylive.dodlive.mil/2014/07/19/as-war-in-europe-escalated-1940-naval-expansion-act-came-when-platformsmatter-ed-most/>

⁴⁷ https://www.ibiblio.org/hyperwar/USN/Building_Bases/bases-18.html

tender vessel⁴⁸, and these were intended to patrol both the Caribbean and parts of the south-eastern Pacific.

A Joint Operations Center was established on 17 December 1941, with an Air Task Force added on 22 December, under the Commanding General of the Sixth Bomber Command. The Air Task Force was to include all USAAC bombers in the Panama sector, plus all US Navy patrol aircraft in the Panama Sea Frontier, for the purpose of aerial patrol and reconnaissance and to attack any force detected in either the Atlantic or Pacific approaches.

Initially, the Caribbean areas were left largely to naval seaborne forces, as both USAAC and Navy aviation operations were concentrated on the Pacific approaches, which were thought more potentially vulnerable. Indeed, the Army was convinced that the greater danger came from the Pacific and thus there was a need to concentrate forces on that side. However, the Navy considered the submarine threat on the Atlantic approaches and Caribbean sea routes to be greater (which, of course, proved to be correct when U-boats arrived in the Caribbean).⁴⁹

One handicap, already touched upon, was that, before World War 2 the US Congress had mandated that the US Navy was not permitted to operate land-based combat aircraft. During the war, however, these rules were gradually modified, as the Navy sought greater control over all aspects of naval warfare, and the Army needed all its units for combat operations in Europe and the Pacific⁵⁰. In August

⁴⁸ The tender would be a vessel that supported the operations of the aircraft. Such ships could carry out the function of barracks, workshops and control towers, so performing the functions normally found at a land-based airfield, and facilitating the rapid deployment to areas lacking in the necessary infrastructure. In the Canal Zone in 1941, USS *Lapwing*, a type of ship known to the US Navy as a Small Seaplane tender and designated AVP-1, having arrived at Coco Solo in 1932.

⁴⁹ *Security and Defense of the Panama Canal 1903-2000* by Charles Morris, Panama Canal Commission: <https://original-ufdc.uflib.ufl.edu/AA00047733/00001/6j>

⁵⁰ A conflict over the use of land-based aircraft dated from the late 1920s, when the US Navy began stationing torpedo-bombers at land bases in Hawaii and the Canal Zone. The resolution of the resulting dispute in 1928, described as “ambiguous” (leaving the question of responsibility for aerial coastal defence

1943, the US Army and US Navy came to an agreement, and in mid-1943, the Army agreed to turn over all anti-submarine operations to the Navy.

In May 1942, the Navy Department informed the 15th Naval District that it would allocate no less than 180 aircraft to the Panama area and, in July, the Navy advised that it was to transfer a PBY squadron from anti-submarine operations in the Caribbean to patrol duties on the Pacific side. A base at Salinas in Ecuador was commissioned as NAS Salinas in August 1942, and the Navy squadron began to participate in patrols, although Pacific patrols at the time continued to be largely undertaken by USAAF aircraft (generally speaking, by then by long-range B-24 or LB.30 Liberators) due a lack of Navy aircraft⁵¹ (and, in any case, Navy aircraft were by then urgently needed to combat a growing U-boat threat in the Caribbean).

From April 1943, Navy patrol aircraft began to gradually replace USAAF bombers on the Pacific patrols, with squadrons stationed at Salinas and at Corinto in Nicaragua. In October 1943, with additional squadrons becoming available, the Navy finally took on the entire Pacific patrol role.

Complementing the PBY Catalina in the patrol role in Panama was the larger, four-engine PB2Y Coronado, equipped with radar.

However, during the period of renewed U-boat threat from 23 November 1943 to 8 April 1944, the USAAF was to take on more of the anti-submarine work in the Caribbean. During this period, 219 four-engine and 266 twin-engine bomber missions were

unresolved into the 1930s), authorised the Navy to base some strike aircraft ashore if the primary functions of these planes were scouting and patrol: but it also recognised the Army's chief responsibility in resisting attacks on the coasts of the US and its possession: <https://media.defense.gov/2010/Sep/24/2001330068/-1/-1/0/AFD-100924-038.pdf> For much more on pre-war planning by the USAAC, including the inter-service rivalry with the Navy, see *Foulois and the US Army Air Corps 1931-1935* by John F Shiner (Office of Air Force History, USAF. Washington DC, 1983).

⁵¹ In 1941-42, Coco Solo was home to 28 PBY.

undertaken by the VI Bomber Command of the Sixth Air Force, carrying out anti-submarine sweeps on behalf of the Navy.

In early 1943, the new 10th Fleet was established for overall command of all anti-submarine operations in that part of the Atlantic under US strategic control – this meaning that a commander of forces in the Panama Sea Frontier served three superiors (the Caribbean Defense Command, the 15th Naval District and 10th Fleet).⁵²

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⁵² *Security and Defense of the Panama Canal 1903-2000* by Charles Morris, Panama Canal Commission: <https://original-ufdc.uflib.ufl.edu/AA00047733/00001/6j>