

**A Brief History of the Development of U.S. Army
Aviation in Defense of the Panama Area
1917-1945**

"They Also Serve Who Only Stand and Wait"

Alae Supra Canalem

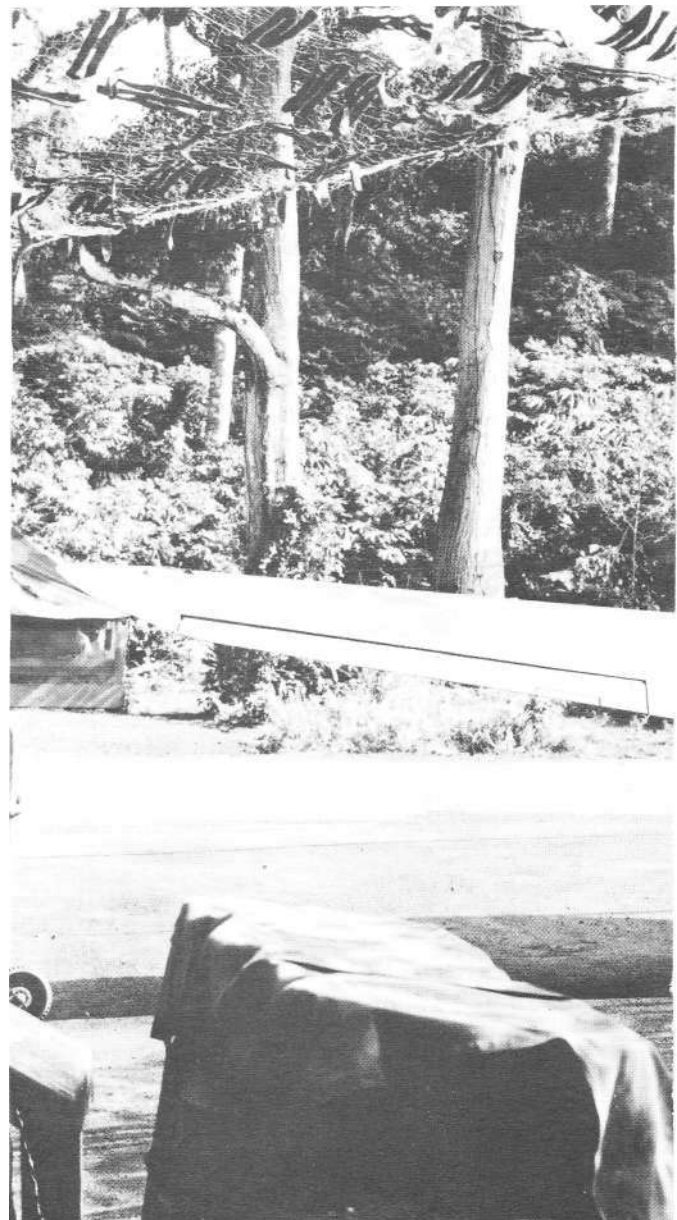
By DANIEL P. HAGEDORN

If is not widely known that there were casualties — on both sides — during the Battle of the Caribbean of World War Two. In fact, the actions that took place in the Caribbean were among the few that came close to the continental United States itself, and most of this action there saw aircraft and ships pitted against Axis submarines. War-time literature alluded our servicemen who "sometimes felt that they had fought a forgotten war."

Yet these men belonged to the oldest of our overseas air forces and, for more than a year before Pearl Harbor, the 6th Air Force was on 24-hour alert in some of the hottest, most rugged terrain in the world.

The Research Project, No. 6706, was intended to cover the history of the U.S. Army Signal Corps/Air Service/Air Corps/Air Force in the Panama Canal and surrounding regions from 1917 to 1945. While the final objective here is essentially the same, the pre-war era — because of scarcity of material — is regrettably surveyed in a general way, while the years 1941 through 1943 — the year of peak activity in the area, are covered in greater detail. The Author welcomes correspondence leading to ultimate completion of this history.

Curtiss P-40C of the 31st Fighter Squadron at La Joya No. 1 in December 1942. The Canal defense forces were by now well dispersed to auxiliary camouflaged fields for interception of possible attacks. 41-13468 came to Panama in January 1941, later crashed in bad weather with pilot Lt. R.E. Dunbar. (USAF 6325)



Anyone who has been to Panama, even recently, can tell you that (a) the rain is frequent and torrential, (b) the humidity insidious, (c) the ants and other crawling things everywhere and (d) it is an easy place to get lost if off the (few) beaten paths. These are the conditions today, after the Canal Zone and the Republic of Panama have been 'cleaned up' and freed of malaria, yellow-fever and lesser pestilence, for the most part. In 1917, when the Canal was barely completed, these conditions were a part of everyday life — the life that became the lot of the first U.S. Army aviators who arrived at Balboa, on the relatively mild Pacific "side" of the Isthmus, in that year.

With America's entry into World War One, it was realized that any likelihood of attack on the Canal, however remote, loomed from the Atlantic, and consequently work was put under way to complete coastal and harbor defenses on the Atlantic side of the Canal. These preparations, of course, included the Signal Corps aviators of the 7th Aero Squadron, a detachment of 51 men, recruited from the Signal Corps Aviation School at San Diego, California, under the command of none other than one Captain H.H. Arnold, who, together with two Curtiss R-4's were brought overland from Balboa to Fort Sherman (a distance of 54 rugged miles) on the Atlantic side where they were assembled. The detachment had in turn moved from decrepit quarters at Corozal to an equally decrepit hotel at Camp Empire, to their "new" home-made establishment at Fort Sherman and, finally, settling permanently on the shore of Manzanillo Bay at a place they sometimes called "Camp Misery" — now the site of France Field. There followed long months of disappointments, frustrations and



continued efforts under the most adverse conditions. Finally, one of the Curtiss R-4's was actually flown. This was the first Army flight made in Panama, and, oddly, the exact date is not recorded, although it took place in September or October 1917. A few days later, the first flight by an Army aircraft across the Isthmus — in 47 minutes — was made by Major Clinton W. Russell, Army Air Service, flying from the Parade Ground at Fort Sherman to Fort Amador 35 miles away.

In late 1917, Major Wynne, in command of a detachment of Air Service troops, took part in a maneuver of U.S. troops at Chorrera, Republic of Panama. His equipment consisted of one of the two R-4's and a Vary pistol. From then on, day after day, the planes ploughed their way down the abbreviated coral runways into the air over the nearby city of Colon, and by midsummer of 1918 the Air Service had established itself in the scheme of the Canal defense.

Little additional activity took place during 1917 and 1918, the arrival of 10 "dismounted hydroplanes" from the U.S. in February 1918 spurring the squadron into some motion. One of these crashed and burned in a swamp area of Gatun Lake on 24 April 1918, with Lt. Howard L. France as a passenger. He was the first Army airman killed while on active duty in the Canal Zone, and for whom France Field was named.

Lt. France was the supply officer of the 7th Squadron and non-rated as an aviator, however, he was a flying enthusiast and desired to become a qualified pilot. He took every opportunity to fly as a passenger, and it was on such a flight in April 1918 that he met his end. The pilot of the aircraft managed to set the plane

down on the water and helped France to climb down to a pontoon. France was not a swimmer, so the pilot urged him to hang on to the pontoon while he swam to shore to secure a small boat. France, in the face of the fire and the presence of the water, experienced panic and let go of the pontoon. He drowned before the pilot could get back to rescue him.

Little activity was recorded for the last year of the war, other than the arrival of three Curtiss flying boats in August 1918. A few words from a faded, yellow document, written by Lt. Charles B. Austin, at France Field shortly after the close of World War One illustrates the spirit of that period:

" . . .demobilization has taken all but an irreducible minimum of officers (two) . . .but with an abiding faith that France Field will not revert, after all to the conditions of old "Camp Misery," but will expand to fulfill our rosiest expectations, and to lend our brief history, and the experience of our early struggles as a foundation for the mighty work which the Air Corps can, and must, perform in Panama."

The first airfield in the Zone, as already noted, was constructed on the Atlantic side (France Field); the site selected as shown on the old surveyor maps as Coco Walk, was partially covered by a mangrove swamp. Even before the completion of the new field, however, it was apparent that a landing field was essential on the Pacific side of the Isthmus because the senior military commander and the center of administration for the Canal were both located in Balboa. At that time, the only transportation between



The P-12E of the 77th Pursuit Squadron was apparently an itinerant visitor to the Canal Zone. As No. 50 in the 20th Pursuit Group, it is shown here with three chevron stripes on the upper wing and 77th P.S. insignie.
(John J. Chalmers)

the two sides — exclusive of the infrequent 7th Squadron flights — was by railroad or by ship through the Canal.

Lowlands filled with spill from construction of the Canal were converted into the field which was completed in 1922 and designated the Balboa Fill Landing Field. This filled area caused no end of troubles for years to come; even later, as Albrook Field, it was never completely corrected. (The field was redesignated as Albrook Field in honor of its first commander, who died as a result of an aircraft accident near Chanute Field, Ill.) Thus, within five years of the arrival of the first Army aircraft, the Air Service had completed the only two fields they were to operate from in the Canal Zone, with few improvements, for 20 years.

The 1920's

In what may in retrospect appear a foolhardy and premature venture, Lt. Charles B. Austin (the same quoted earlier) left France Field at 0626 hours, 6 October 1920, on an attempted flight to Washington, D.C. His airplane was described as a "remodeled DH -4," the front cockpit of which was rigged to provide additional fuel space, 220 gallons of gas, and 15 pounds of mail. His first stop was to be Kingston, Jamaica and from there his route was from Havana, Cuba to Miami, and finally, Boiling Field, D.C., with possibly a stop "somewhere" in the Carolinas. He was escorted 75 miles out to sea by two other DH-4's, which reported that his first 60 miles were covered in "just" 40 minutes.

Not to be outdone, the Navy at neighboring Coco Solo N.A.S. launched two Curtiss F-5L's (No. 4294 and 4295), which left at 0720 hours — also for Kingston. Kingston, it will be noted, is 551 nautical miles from France Field. All three were forced back by a severe storm south of Jamaica. The F-5L's (radio equipped) were warned of the storm 200 miles out, but Lt. Austin's DH-4, sans radio, ran into the storm at the 400 mile mark. To his credit, he tried to drive through it, but trouble with his propeller (common in Panama) compelled him to give it up. The DH-4 arrived back at 1620 having flown 10 hours, 25 minutes, or about 900 miles! Both flights were described as successful "experiments."

A succession of vintage aircraft were employed by the Army in the Canal Zone during the 1920's, typical of the hard times suffered universally by the Air Service in those halcyon years. The first steps toward a framework for future expansion of military aviation in the Canal Zone came 30 September 1919, when the 3rd Observation Group was organized, with the 7th Aero Squadron as its sole subordinate unit, equipped with the venerable R-4's and DH-4's. This unit, administratively, became the 6th Group (Observation) in 1921, and the 6th Group (Composite) in 1922. Later, in 1937, it became the 6th Bombardment Group. Throughout almost all of this period its station remained at France Field.

By 1922, however, when it was designated 6th Group

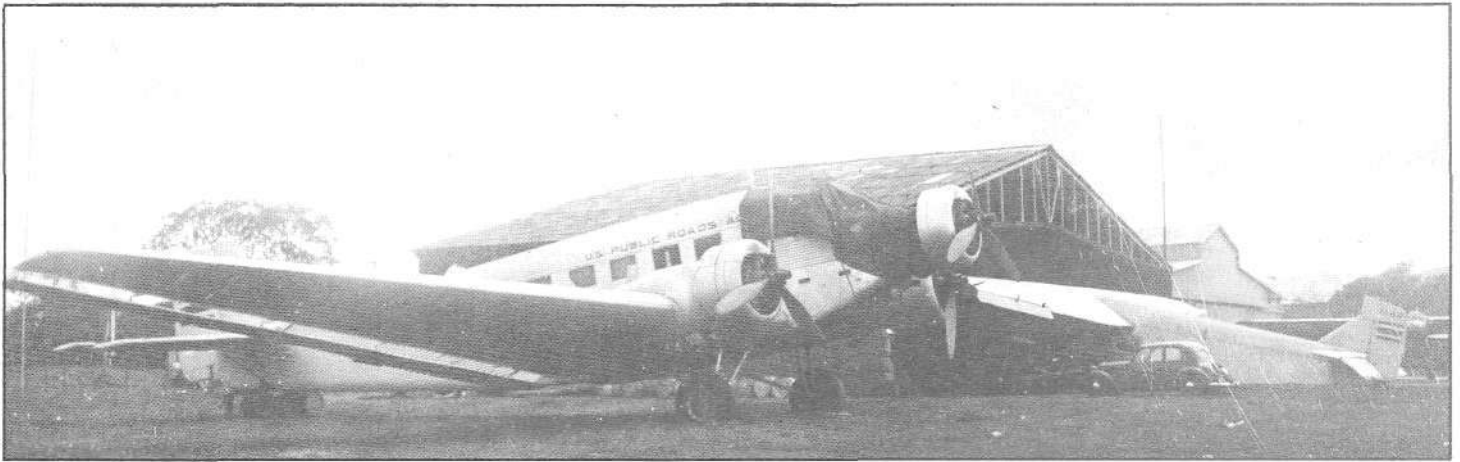
(Composite), subordinate units included the 24th Pursuit Squadron, the 25th Bombardment Squadron, the veteran 7th Observation Squadron and support elements, and equipment for these units included SE-5A's, Thomas-Morse/Boeing MB-3A's (1922-1927), Boeing PW-9's (1922-1930), and DH-4's (1922-1930) for the 24th Pursuit; Curtiss R-4, JN-4 (1917-1931), R-3 (1917-1919) R-9 (1917-1919), DH-4 (1919-1931), Loening OA-1's (1919-1931), and Douglas O-2's for the 7th Observation Squadron.² The 25th Bombardment employed in succession LWF NBS-1 (1922-1930), Keystone LB-5 (1922-1929), and LB-7 (1922-1929) bombers.

These units constituted the air defense of the Panama Canal from the end of World War One until after the stock market crash of 1929; the miscellany of aircraft were neither replaced or supplemented until 1931. Indeed, the last Boeing PW-9 in the 24th Pursuit was surveyed in August 1930 (27-195, a PW-9C). A total of 19 PW-9's had been flown by the 24th between 1922 and 1930, with five of them eventually being written off in accidents. Three others were shipped to the States in 1930; the remaining eleven were surveyed in 1929-30. In addition to the PW-9's the 24th also operated seven Thomas-Morse/Boeing MB-3A's between 31 July 1923 and 30 June 1927. Only one of the aircraft suffered an accident (A.S. 68349, which made a forced landing at France Field 24 January 1927 with Lt. John H. Gardner at the controls, due to a seized engine). The remaining MB-3's served faithfully until surveyed as being "wornout."

Pilots of the 25th Bomb Squadron did not fare as well as their pursuit brethren in so far as enjoying a mixture of mounts. Four L.W.F. NBS-1's (a split-contract type similar to the Martin MB-2) arrived in the last half of 1922, followed by seven more during 1923. Two additional NBS-1's arrived in 1924, and the type persisted in service until July 1930, by which time only one remained of the total of 16 used in Panama. Seven had crashed in the interim, while the remainder were surveyed as "wornout" by June 1929. One NBS-1, A.S. 68466, had crashed in distant San Jose, Costa Rica, 4 January 1925 with 217 hours total time, and marked probably one of the earliest incidences of a Canal Zone-based Army aircraft crashing in a neighboring country.

It has been difficult to determine any details of DH-4's employed by the Army in Panama prior to 1920, but the DH-4B saw considerable use between February 1920 and July 1927 (14 DH-4B's were mixed between each of the Air Service units in Panama) and were "replaced" by at least five DH-4M-1's (Boeing-built with modern replacement parts) and two DH-4M-2P's by July 1926. These later subtypes survived until 20 May 1930, when the last one was surveyed. (The DH-4M-2P was fitted with photo equipment and a 110 gallon main tank).

Of ten Loening COA-1's purchased by the Army, two were employed by the 7th Observation Squadron at France Field

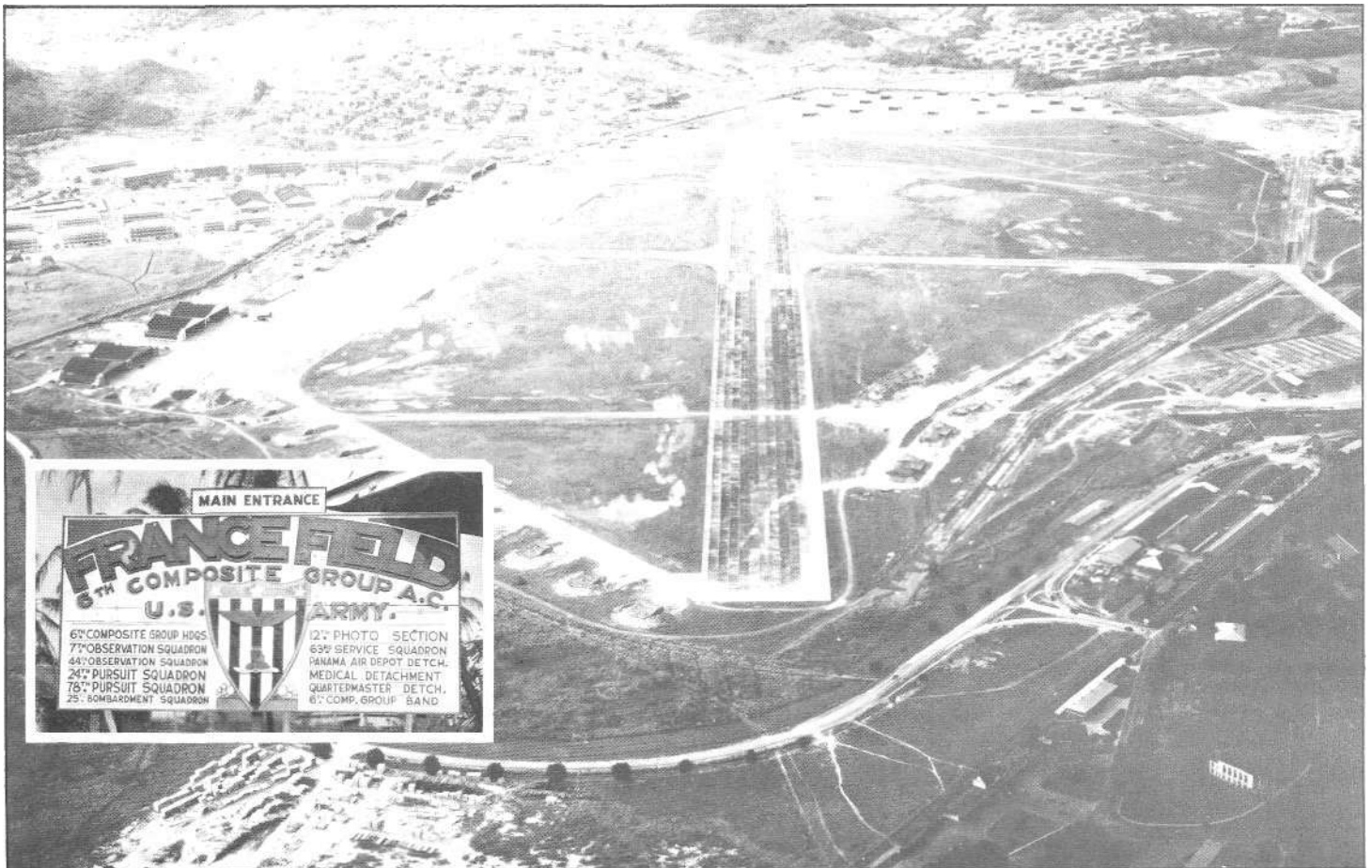
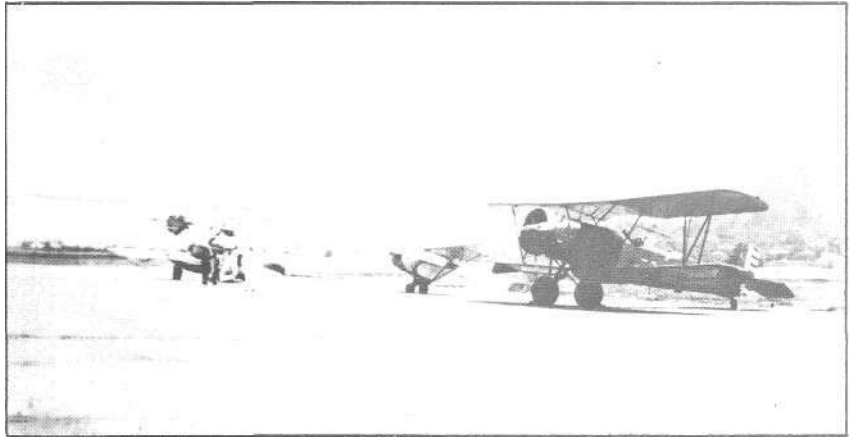


Above, the Junkers Ju.52 which became the lone UC-79, 42,52883, in the 20th Transport Squadron. It served a succession of Army and other U.S. government agencies, then went to the Republic of Costa Rica as "TI-60."

Ramp scene at Albrook Field in the early 1930's, with a Thomas Morse O-19C of the 7th Rec. Sq., a rare Canal-Zone registered Taylorcraft, and a Pan American Sikorsky S-38. (Panama Canal Public Affairs Office)

Albrook Field as it looked from the air on 11 February 1942. This view was from the Pacific side of the Isthmus and shows the effect of construction activity under duress of the War. 40 Revetments had been built, seven large enough for B-17 sized airplanes. The aircraft on the field were typical of the defense force, a conglomerate group of P-26A, P-40's, C-49's, BC-1's C-60, a DC-3 and an A-20. (USAF 169865)

The sign at the entrance to France Field was a roster indicative of the history of the Army Air Corps in Canal Zone in the 1920's and -30's. (Photo - John J. Chalmers)





Left, Bell P-39Q-5, 42-20407, of the 24th Fighter Squadron at Madden Field, Panama in 1944. Its crew chief was then Robert L. Taylor, later President of Antique Airplane Association. The airplane, No. 13 of the 36th F.G., was surveyed in May 1945. (Robert L. Taylor)

On the opposite page.

North American O-47A, Number 5 of the 15th Observation Squadron, at Borinquen Field, Puerto Rico, October 1940. The horizontal bar through the "O" on fin denoted "observation" instead of the numeral zero. (Marvin P. Mayo)

(25-233 and 25-234), both being assigned on 5 February 1926 and disappearing within two years. They were supplemented in May 1927 by four of the Army's 15 OA-1A's, only one of which died a "natural" death by the time they were struck-off in May 1930.

The 7th Observation also received a Douglas C-1C (26-422) in 1927 and one of the four diminutive Thomas Morse O-6's (25-439), also taken up in 1927. One other curiosity graced the Air Service hangers in Panama during the 1920's — the Cox Klemin XA-1 (23-1247) which was shipped to France Field in June 1925 as an ambulance. It survived, in spite of a crash in 1926, until August 1929.

The 1930's

By the end of 1930, Air Corps units in the Canal Zone had been supplied new mounts for all roles, and reequipment and modernization continued into the late 1930's until the crises of 1940-41.

A major organizational change occurred in January 1933 when all Air Corps units in Panama were gathered together as the 19th Wing, this unit remaining as the major Air Corps element in the Zone until creation of the Panama Canal Department Air Force and Caribbean Air Force (CAF).³ Operational units remained essentially the same, with the 24th Pursuit (located at Albrook Field from 26 October 1932), the 25th Bomb and 7th Recon (formerly Observation) Squadrons, at France Field. Added to these, however, was the 44th Observation Squadron, also at France, until 1 April 1931 when it moved to Albrook.

Mounts for the 19th Wing units during the 1930's were standardized on Boeing P-12E and P-12F fighters for the pursuit squadron, which rendered spartan service until they finally departed by freighter 5 January 1939 for the U.S. In the words of the Albrook correspondent for the Air Corps Newsletter, "their departure left a blank file in the Air Corps equipment in the Canal Zone; their versatility had been put to good use." Their replacements, Boeing P-26A's, numbered 24 by 1939, and these were not finally withdrawn from unit use until after March 1943. Several remained until that date on strength with the Panama Interceptor Command (PIC) detachments at Guatemala City and San Jose and with Headquarters XXVIth Fighter Command at Albrook.

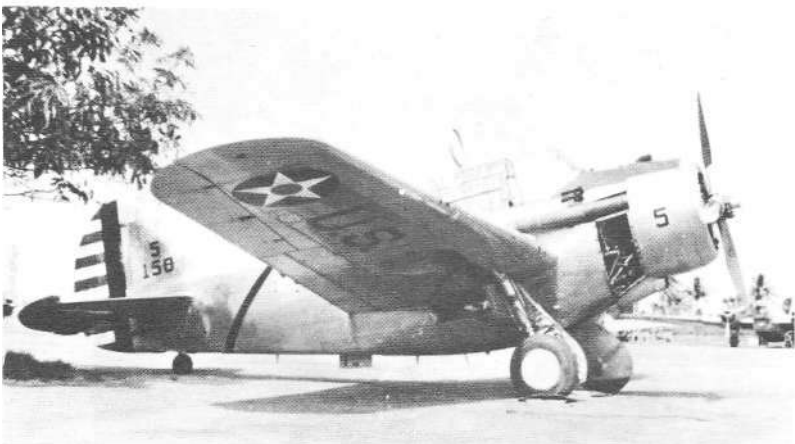
The bomber units were equipped with Martin B-10B's from 1936 to 1939 and some Keystone B-6A's as late as 1938, and at least one B-10BM was still on strength with the Headquarters, 36th Pursuit Group at Losey Field, Puerto Rico as late as February 1942. Most B-10 aircraft, however were being prepared for shipment back to the U.S. in 1939, 28 in all, the last five leaving by air for the U.S. on 15 August. The Thomas Morse O-19C (1930-1939), uniquely by itself, served along with some reported Douglas O-2's in the 44th Recon Squadron.⁴ A miscellany of

transport and auxiliary aircraft completed the 19th Wing strength, including at least one Bellanca Y1C-26A, two Bellanca C-27A's, Douglas C-29's and OA-4B's, at least one Ford C-9 (29-228), and a Sikorsky C-6A (30-401) at France Field Panama Air Depot (PAD) from 1930.

Several important developments took place during the '30's that ultimately affected the future of the Air Corps in the Caribbean, and proved a tribute to the planning of Air Corps leaders in the area. In April 1934, Maj. R.L. Walsh, who then commanded the 16th Pursuit Group at Albrook Field (made of the 24th and new 29th Pursuit Squadrons with P-26's), recommended in a letter to Lt. Col. William C. McChord CO. of the 19th Wing, that the rudimentary landing field at Rio Hato, lying 65 miles SE of Albrook Field along the ragged coastline of the Bay of Panama, be considered as a possible base of operations for ground and aerial gunnery and for field maneuvers. Maj. Walsh drew attention to the fact that the area was particularly suitable because there were no populated areas nearby; that the country was not heavily wooded and that its owner, Sr. Asger Kierulff, a native of Denmark and the principle land owner in the vicinity, was willing to lease the area for a very reasonable fee. The fact that Rio Hato was favored with an excellent beach, hungry fish and an inn renowned throughout Panama (and owned by Sr. Kierulff) also undoubtedly favored the area. This "gunnery range" was destined later to become one of the major air bases in the entire Caribbean, and for a time had Latin America's longest hard-surfaced runway. (It accommodated B-29's for a very short period after VJ day).

Other "emergency" landing areas dotted the Republic of Panama and pilots who have served in the Canal Zone will find an old familiar ring in such names as Chame, Chepo, Chorrera, Aguadulce, Poeri, Las Lajas, David and Jaque.

The establishment of a system of auxiliary air fields augured well for the future, but another development also proved valuable — mass "Goodwill Flights" of Air Corps Canal Zone-based airplanes to neighboring countries in the Caribbean area, as did continuing mercy missions to remote areas. One particularly noteworthy flight began 7 February 1938, when virtually the entire 19th Wing — including full units of 24 Boeing P-12's, 14 Northrop A-17's and 28 Martin B-10 aircraft — were led to Guatemala City by Brigadier General George H. Brett and his staff in a Sikorsky Y10A-8 (37-372), with a stop at Managua, Nicaragua, enroute. The reception which the Wing was accorded in Guatemala City was probably the high-water mark of pro-American sentiment in Latin America. This flight marked the first time in aviation history that a force of its size and character had left its post of duty to make a visit of courtesy to a foreign government. The warmth with which Army pilots and crews were greeted on this and other earlier and subsequent flights surely was not forgotten during the early days of WWII.



PROPHECIES AND PLANNING

General William Mitchell, controversial prophet of many facets of Army aviation, authored an article for *Popular Aviation* in September 1929, entitled "Panama is Defenseless." Admittedly, our military posture at that point in time could have been viewed as inferior to some other world powers, and the points concerning the weaknesses of the Canal in the article were sound. His basic theory — that the Canal could be blocked or rendered useless by a few well placed bombs — haunted Air Corps commanders for many years well into WWII. Significantly, *Popular Aviation* re-ran General Mitchell's article, verbatim, in its September 1940 issue. By that date, planning and preparation had rendered some of his warnings academic.

The recurrent crises in Europe during 1938 made the weak spots in the canal defenses seem glaring indeed to those charged with preparations for its defense. Effective air interception, considered the answer to the most deadly threat to the canal, would require long-range patrols, yet-to-be introduced radar installations, and a screen of outlying bases. Not one of these requirements was immediately available by 1939 and only potential bases existed in the Antilles chain guarding the Atlantic approaches. But the Pacific approaches had no similar cover.

In the strictly theoretical atmosphere of prewar planning, the Army was forced to consider the responsibility for securing bases at a distance from the Canal to be that of the Navy. General Stone, then commanding the Panama Canal Department, however, sent out a party at the end of 1938 to investigate the suitability of the Galapagos Islands for airfields, seaplane bases and advanced warning stations. The Galapagos eventually became the keystone in the Pacific-side defense procedures, and, code named 'Beta,' it carried the brunt of patrol activities with Salinas, Ecuador; Talara, Peru; and Guatemala City, Guatemala.

As Germany went to war with the Allied powers, the War Department decided to double the pursuit plane strength in the Canal Zone between August 1939 and January 1940. Since 17 April 1939, the main runway and radio control tower at Albrook Field had been completed, and the first of 30 new Douglas B-18's arrived for an extended stay to supplement the obsolescent B-10's. Shortly thereafter, in September 1939, after hurried arrangements with the Central American nations and Mexico, 30 new Curtiss P-36A's were flown south to Albrook Fd. While these reinforcements improved the posture of the aerial status in the Zone, it was not without its resulting problems. At Albrook, enlisted men were sleeping in hangers, and arriving and departing aircraft were crowded at the two small bases.

Meanwhile, in July 1939, the first step was taken in securing the Atlantic approaches when the Puerto Rican Department was established. In September Puerto Rico Air Base No. 1 was estab-

lished in a cow pasture near Point Borinquen, on the extreme northwest corner of Puerto Rico. In November, the officers and men of the 27th Recon Squadron arrived, followed after the completion of the runway by their nine B-18's. Another small link in the formation of the Antilles chain of bases was also in being in 1939 — the small Marine Corps air strip on St. Thomas in the Virgin Islands.

Commanders in the Canal Zone were at odds with the Air Corps people in Washington over the ways and means of organizing the air defense of the zone at this time. Officers in the zone requested more transport and reconnaissance planes to supplement the proposed expanded base system in Panama and the Caribbean, but General Arnold, having already approved the newly arrived B-18's and P-36's, in disapproving this new request stated that "the principle that all aircraft necessary for the defense of the Panama Canal must be available in the immediate area of the Canal Zone at all time," he wrote, "is in direct opposition to the approved Air Board Report, which adheres to the principle that the aviation complement of overseas garrisons should be held to the minimum required before reinforcement by air can arrive. From a realistic viewpoint, it seems inconceivable that an air attack of such proportions as to be beyond the defensive capabilities of the normal garrison could be launched without the 48 hours warning required to permit reinforcement by air."

With these positions in mind, a look at the Air Corps strength in the Canal Zone at its two fields — Albrook and France — is in order. Statistically this was the position in August 1939:

TYPE	ON HAND
Bellanca C-27A	2
Boeing P-26A	24
Douglas B-18	33
Douglas C-29	1
Douglas C-33	2
Douglas OA-4B/C-26A	1
Grumman OA-9	3
North American BC-1	6
Northrop A-17	14
Sikorsky Y10A-8	1
Thomas-Morse O-19C	1
86 total all types (70 combat types)	

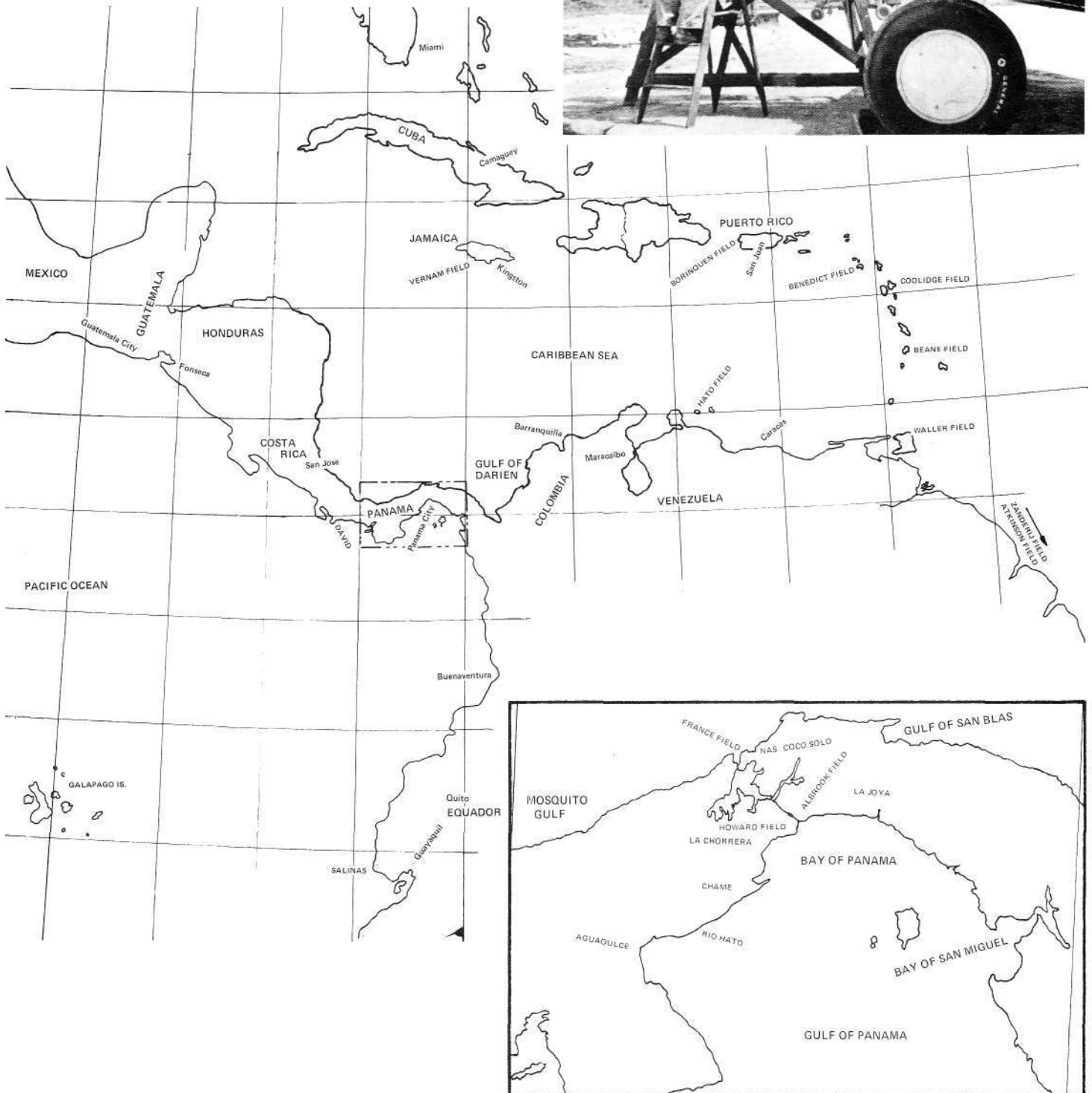
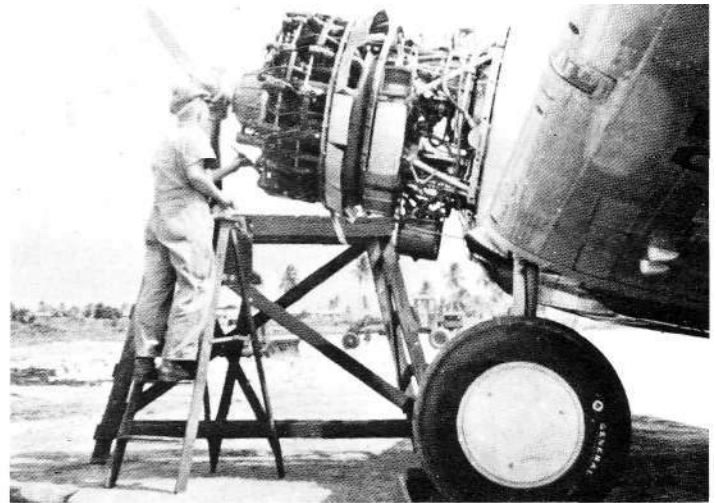
THE ALERT OF JUNE 1940

Through the end of 1939 - and following the final outbreak of war in Europe — the pace of preparations in the Caribbean continued. The Commanding General of the Panama Canal Department was placed in charge of all Army activities — civilian as well as military — in the Canal Zone on 5 September 1939. In spite of this move and the accompanying frenzy of activity, no evidence has yet been uncovered of an actual German plan in 1939 for military expansion towards the Americas, although ideologically and economically they were active throughout South America. The Nazis did engage in manifold activities to stir up trouble for the U.S. in Latin America, and with the fall of France the problem of Guadalupe and Martinique brought suspense in the Caribbean to a peak.

The Hawaiian and Panama Canal Departments were alerted on 17 June 1940 against the possibility of surprise attack and internal sabotage. The Alert Directive received by General Van Voorhis, PCD Co, required him to take "every possible precaution" against any sort of action "naval, air or sabotage, aimed at putting the canal out of commission" and it specified that "the air component and antiaircraft forces must be in a state of preparedness for action at any hour."

From this point on, during the pre-Pearl Harbor period, Army plans and preparations for air defense centered around the attainment of three major objectives in the Latin American area: elimination of commercial airlines owned, controlled, or manned by Axis nationals and their replacement by U.S. or locally controlled

As shown by the maps here, the Caribbean defense forces were widely spread, and in the pre-World War II days of inadequate equipment, few trained personnel and poor communications, maintenance facilities were primitive. At left the 825 hp Pratt & Whitney Twin Row engine of the Northrop A-17A was being given top overhaul while the flight strip at Borinquen, previously a Puerto Rican cow pasture, was being built in 1940. (Photo — Marvin P. Mayo)



companies (largely accomplished by Pan American Airways Corp.); development of airfields and airways facilities of a nature that would permit the projection of American military aircraft into strategic areas; and other preparations that would permit air operations to begin at once in the event of an actual or imminently threatened hostile air attack.

By this time, units had transitioned into their new equipment and become proficient in their use, and Albrook and France Fields both set record numbers of landings and departures that held till 1941. A new auxiliary strip had been hacked out of the jungle near the coast artillery post of Fort Kobbe, across the Pacific mouth of the Canal from Albrook, and among a host of other trials experienced by this new auxiliary station were large buzzards. Lt. W.B. Hunt, flying a P-38, collided with a buzzard 29 December 1940, doing considerable damage to his aircraft.

The plan for the Kobbe field was developed in 1938 and the site was selected on the Kobbe reservation at Braja Point. Construction began in 1939 temporarily designated as Bruja Point Airfield and was completed in 1941. On 1 December 1939, the field was redesignated as Howard Field, the name proposed by Gen. Arnold in honor of Major Charles H. Howard who had accompanied him on the famed Alaska flight in 1934. Howard Field answered the need for an additional base, one with a longer runway which could serve as a bomber base.

For comparison with the 1939 situation, examine now the Air Corps strength in the Canal Zone at the time of the June 1940 Alert:

TYPE	ON HAND
Boeing P-26A	25
Curtiss P-36A	22
Douglas B-18	54
Douglas C-33	2
Douglas C-39	1
Douglas CA-4B/C-26A	1
Grumman OA-9	2
Martin B-10B	2
North American BC-1	4
North American BC-2	1
North American O-47A	10
Northrop A-17	15
Sikorsky Y10A-8	2

141 total all types (129 combat)

CARIBBEAN DEFENSE COMMAND

General Marshall, in a letter to General Van Voorhis in January 1941, stated that current plans provided for too many air units to be accumulated on permanent stations in the Caribbean. General Van Voorhis, on the other hand, felt that the Panama Canal air forces should not go beyond the immediate sphere of their operations in defense of the Canal, for which they were initially provided, and that they should not be looked upon as a force available for operations throughout the theater. This disagreement was settled, administratively at least, in May 1941, when the Caribbean Defense Command was born — which, of course, fathered the Caribbean Air Force in August 1941. Until that date Air Corps units in the Caribbean had been split between the Panama Canal Air Force and the Puerto Rico forces, a combination of air forces which came under the command of Major General Frank M. Andrews in December 1940. Thru redesignation, he became commander of the Caribbean Air Force on 8 May 1941. It is interesting to note that, only six months earlier, General Andrews had described the Panama air defenses, in a letter to M/Gen. George H. Brett, Acting Chief of the Air Corps, as "worth little" and the communications system as being "lousy." Evidently, he was being given the opportunity to rectify his points of criticism.

Now, a year after the Alert of June 1940, and with a new and greatly expanded organization, once again examine the strength of the Air Corps in the Caribbean at June 1941:

TYPE	ON HAND		
Beech UC-45	1		
Bell P-39D	24		
Boeing B-17B	9		
Boeing B-17C	1		
Boeing B-17D	1	Douglas C-49	1
Boeing P-26A	9+	Douglas ZOA-4C	1
Curtiss P-36A	17	Grumman OA-9	2
Curtiss P-40B	6	North American BC-1	4
Curtiss P-40C	64	North American BC-2	2
Curtiss P-40D	22	North American O-47A	10+
Curtiss YA-19	2	Northrop A-17	13
Douglas A-20A	13	Sikorsky Y10A-8	2
Douglas B-18	27		
Douglas B-18A	17		
Douglas BT-2	3		
Douglas C-39	4		

THE LAST SIX MONTHS OF PEACE

Rumors and fears of a Japanese attempt against the Canal had developed at the beginning of July 1941 when affairs in the Far East began to edge toward a crisis. One Japanese shipping company, it was stated, had ordered its vessels to the West of the Panama Canal by 25 July regardless of passengers or cargo. The Navy, in a Department bulletin to the President on 3 July 1941, reported a "possible torpedo attack on Panama Canal between 1st and 15th of July is reported from a reliable source."

As a result of these pronouncements, the Alert of July 1941 was sounded. Anti-submarine and torpedo nets were placed in operation in front of the locks and bomber command and some of the pursuit squadrons were on 24-hour alert. A cable was stretched across the only possible approach to the first set of locks on the Pacific side of the Canal (Miraflores). Unfortunately, being very near Albrook Field, the cable's only WWII victim was a luckless USAAF O-47A, busy at the time helping anti-aircraft batteries around the locks calibrate.

Meanwhile, someone in Washington had figured out that Japanese shipping movements were scheduled so as to place one or more vessels in the Canal each day during the period 16-22 July. At about this point, General Marshall repeated his warning of January, when he stated, with considerable wisdom, that the Panama Air Forces were being "entrapped" in the Canal Zone on three small airfields. (This same observation was communicated to the Philippines and Hawaii). Therefore, Air Corps units were hurriedly dispersed to the 12 airbase sites in Panama. Two of the proposed seven AWS stations were transferred but were not yet operational; by 29 November they were in use.

An example of the hazards of flying in Panama occurred during a typical afternoon downpour. Three Curtiss P-40C's flew into Quarry Heights in close formation. Lieutenants David M. Lewy, Loren M. Harrington and Horace G. Holderman died all in the instant of crashing into the hillside.⁵ Quarry Heights, which has been referred to as the "Gibraltar of the Caribbean," is a large hill commanding the south-eastern side of Albrook Field.

With the opening of the two radar sites mentioned, however, such accidents could at least theoretically be avoided, but it is worth noting that these were SCR-270 radar — the same type in use on Oahu.

General Andrews, perhaps with the British experience in mind, advised HQ's that the CAF was totally lacking in night pursuit planes and in very-high-frequency radio equipment with which to direct pursuit in air. Only eight modern long-range bombers (B-17's) and 12 modern light bombers (A-20A's) were available, and there were no 37mm cannon for the P-39's — at that point, numerically the most important aircraft in the CAF. The Air Corps commanders in Hawaii and the Philippines were doubtlessly echoing these thoughts at the time.

The Caribbean side of the Isthmus gave Army authorities in the Canal Zone less concern than the exposed position on the Pacific



Assignment to the Rio Hato Fighter Strip was considered good duty, especially before the war. The ocean was nearby, the weather generally good for recreation, and work hours secured at 1:30 p.m. Fighter patrols, like this element of P-39N-5's of the 51st F.S. in 1942, with red spinners and white fin tips, flew up daily from Albrook Field until accommodations were provided. (W.K. Ciroux via R.M. Hill)

side. The air garrison in Puerto Rico, by late 1941, consisted of 6,000 men of the 13th Composite Wing, with 21 B-18's and 92 fighters (mostly P-39's and P-40's), and a few P36's. In contrast to the Pacific side (with no such garrison at an equal distance from the canal) the Caribbean operational plan faced towards the Atlantic and anticipated a war in which Germany and Italy would be the major opponents.⁶

History seldom gives credit to "trains" and supply sappers who make all of the deeds of the centurion elements of armies possible. This is nowhere more accurate than in the case of the 20th Transport Squadron, activated at France Field in December 1940.

Until the advent of the Air Transport Command (ATC) during the War, the 20th maintained the lines of communication for the C.A.F. and Sixth Air Force from its headquarters in the Canal Zone to its most distant bastions — ranging from Guatemala City to the north; east to Cuba and Trinidad; south to Santiago, Chile and west to the Galapagos. It set up an international airline to supply and provide transportation for U.S. Army air missions in nearly every South American country. Some of the 20th's veteran pilots logged more than 2,500 hours during their tours in Panama. The squadron had its share of "action." German submarines are known to have surfaced, ride the same radio beams that the squadron used on its regular runs, and to fire on the low-flying

transports as they travelled on. The 20th carried out its mission from October 1941 to May 1942 with 23 airplanes widely based:

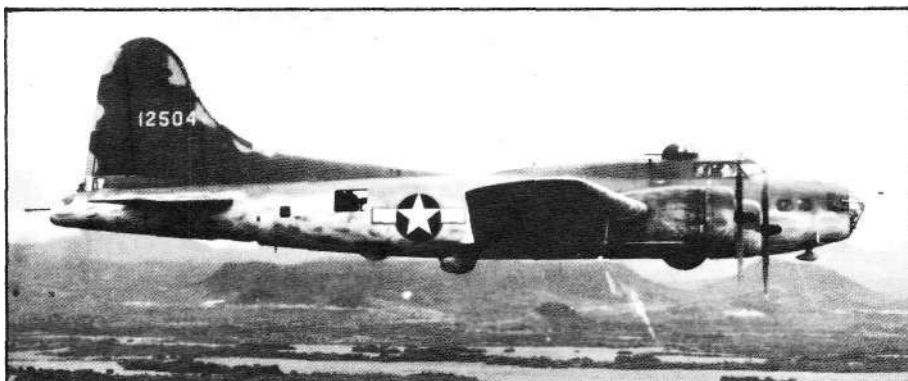
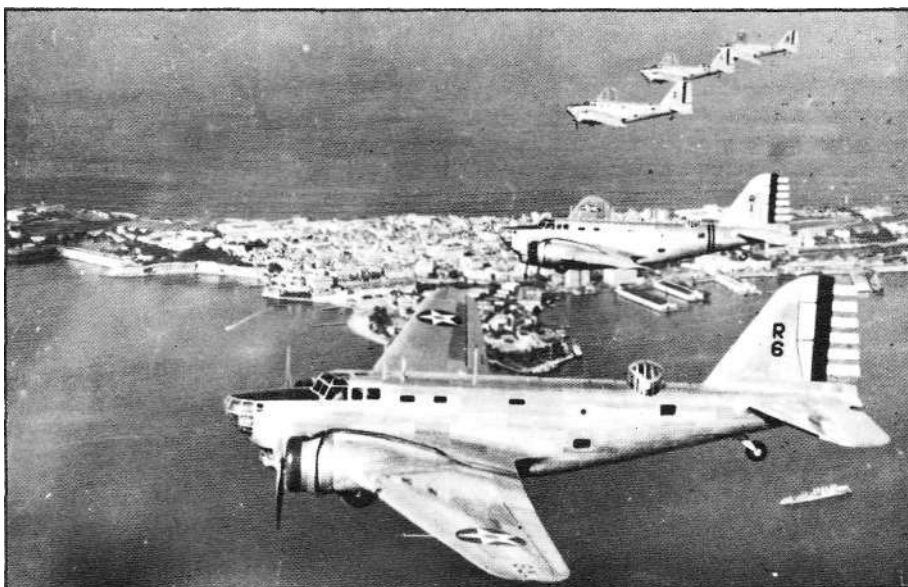
		SERIAL	SQ. NO.	DISPOSITION
Douglas	C-39	38-51 0	1	Waller Field, Trinidad
Douglas	C-39	38-524	2	Losey Field, P.R.
Douglas	C-39	38-534	3	Waller Field, Trinidad
Douglas	C-39	38-504	4	Howard Field, C.Z.
Douglas	C-49C	41-7715	5	Howard Field, C.Z.
Douglas	C-49C	41-7721	11	Albrook Field, C.Z.
Douglas	C-49D	41-7716	6	Losey Field, P.R.
Douglas	C-49D	41-7717	7	Howard Field, C.Z.
Douglas	C-49D	41-7718	8	Howard Field, C.Z.
Douglas	C-49D	41-7719	9	Howard Field, C.Z.
Douglas	C-49D	41-7720	10	Albrook Field, C.Z.
Douglas	C-47	41-7762	12	Howard Field, C.Z.
Douglas	C-47	41-7770	13	Howard Field, C.Z.
Douglas	C-47	41-7761	14	Howard Field, C.Z.
Douglas	C-47	41-7782	15	Waller Field, Trinidad
Douglas	C-47	41-7783	16	Waller Field, Trinidad
Douglas	C-47	41-7784	17	Losey Field, P.R.
Douglas	C-47	41-7785	18	Howard Field, C.Z.
Douglas	C-49	41-7689	—	Albrook Field, C.Z.
Douglas	C-49B	41-7692	-	Albrook Field, C.Z.
Convair	OA-10	41-18772	19	Howard Field, C.Z.
Convair	OA-10	41-18773	20	Howard Field, C.Z.
Junkers	UC-79	42-52883	-	Curacao, N.W.I.

Five B-18A's of the 27th Reconnaissance Squadron in late 1940. (Marvin P. Mayo)

Boeing B-17E 41-2504 near Chame, beginning a patrol of the western approaches to the Canal. This airplane came to Panama in April 1942, returned to the States in July 1944, was based part of the time at Guatemala City. Its unusual underside camouflage pattern was locally applied, and it retained the red-bordered national insignia. (USAF 60563 AC)

The modified B-18B, 37-530 of the 99th Reconnaissance Squadron shown below was based at Zanderij Field, Trinidad, and patrolled the east edge of the Caribbean Sea Frontier, July 1942. The tail boom housed an early version of the magnetic airborne detector. This airplane continued in service until condemned in September 1944. (USAF 23193)

Nose art in the Canal defense forces had its devotees as everywhere else. The 397th B.S. LB-30's, on Pacific patrol from Howard Field, all carried some form. Below, THE STUD DUCK. Another was the JUNGLE QUEEN, *JOURNAL*, Winter 1970. (Laird)



The ultimate in equipment and markings are seen in this view of P-38L-20, 44-23XX5 (in 23769/25058 range) at France Field in 1945, belonging to the 24th F.S. The 24th was an old outfit, organized in 1921 and with the 6th Composite Group in Canal defense since April 1922. The tiger emblem of the Squadron, almost unchanged since its organization, is on the nose. Crew Chief at the time was then Cpl. Robert L. Taylor, now of AAA. (Photo - R.L. Taylor)



At the time of Pearl Harbor, serious deficiencies existed in the warning and detection systems. There were but two SCR-271 radars in operation, one at each end of the Canal. Three more sets arrived by the end of December and were being installed on the Pacific side of the Isthmus, but the work was slowed by shortage of trained radar engineers and mechanics. There was as yet no airborne equipment for surface vessel detection (ASV).

Tests with the existing equipment repeatedly disclosed that low-flying planes approaching directly over the Bay of Panama were not detected by the radar system. Neither the SCR-270 or 271 was designed to show the altitude of the approaching aircraft and in spite of more and better equipment, and more expert, scientific placing of the sets, there still remained a blind spot at low altitudes over the Bay of Panama, not corrected until the end of 1942.

Work continued elsewhere to make the Auxiliary Airdromes more hospitable, and units were encouraged to familiarize their aircrews with as many of these as possible so that rapid shifting could be carried out if necessary. Howard Field was completed after 24-hour a day efforts on the part of the engineering battalions. Herculean efforts were nearing completion of the camouflage and defense systems for the locks as well as the all important dams which provided the water sources needed to make the Canal operable. As in other theaters, 7 December 1941

came unexpectedly, but fortunately, not to the thunder of guns.

The Caribbean Air Force was brought from its "Alert" status to full war footing as rapidly as communications would allow. Al Meryman, AAHS member and former ground crewman on P-36 aircraft at Albrook on the fateful day, recalls that all available P-40's of the 16th Pursuit Group were lined up on the field - just as they were at fields in Hawaii and the Philippines. The threat of sabotage seemed more imminent than air attack.

Within days, however, with the lessons of Hickam and Clark field painfully fresh, aircraft were dispersed and operational at 14 fields along the Antilles chain guarding the Atlantic approaches from Puerto Rico south to Trinidad, at three airfields in Central America and at nine fields in the Republic of Panama and the Canal Zone. At Albrook, "planes" were painted, full size, on the tarmac, while the few Curtiss A-18's and YA-19's on hand were left to sit out — as "decoys" to attacking planes. Revetment construction was rushed day and night. The USS YORKTOWN was enroute through the Canal and her SBD's complement of VS-5, resplendent in pre-war markings became tenants at Albrook Fd.

The Central American installations carried the burden of the watch on the Pacific approaches until February 1942; the key fields at Salinas, Ecuador, Talara in Peru, and the Galapagos Islands were not yet operational.

The airfields in the Antilles at the eastern edge of the Caribbean Sea were, for the most part, a result of arrangements with the British for the exchange of base sites for 50 old destroyers. Other arrangements were carried out with the Dutch government for protection of vital petroleum facilities in the Curacao and Surinam areas, as well as bauxite ore deposits. Prior to the War American shipping was carrying no less than two million tons of bauxite per year from Surinam to the U.S., 60 to 65% of the total supply. Thus it is not surprising that the CAF air unit for the defense of Surinam — three B-18's and seven P-40's — arrived on December 8th.

By the end of December permission to build bases in the Galapagos had been obtained and negotiations for bases at Talara and Salinas were under way. Less than a week after Pearl Harbor, an advance unit of the Navy base force was on its way to "The Rock," the Galapagos base, on a British steamer.

The first Army planes came to Salinas on 16 January 1942, under austere conditions; four B-17's arrived from Panama and in September 1942 the base at Talara was in full operation. Due to weather conditions prevailing at these locations it was decided that both were necessary in order to offer an alternative to weary patrol crews if one or the other were socked-in. It was early May before the first Army combat unit reached the Galapagos and began operations. Thus air facilities at the North end of the patrol arch were usable several weeks before operations began at the Salinas field.

OPERATIONS - SIXTH AIR FORCE

The Caribbean Air Force, born in August 1941, had a relatively short life. It became the 6th Air Force in February 1942. Although Panama was exempted from the initial Japanese onslaught, it was inevitable that, out of the flood of rumors that were rampant everywhere at the time, a report would come that two hostile aircraft carriers had been sighted off the West coast of Mexico. General Andrews was immediately instructed by Washington to "take all necessary precautions in reconnaissance." Secretary of War Stimson was "aroused by the thought that the Canal would probably be one of the next objectives of the Japanese." No doubt the airmen at Guatemala City, off chasing phantom aircraft carriers, held similar views.

An additional pursuit group, the 53rd with P-39's from McDill

Field, Florida, was dispatched from the U.S. to reinforce the Panama garrison, remaining only during the crisis months, January to November 1942. The scarcity of support aircraft for the now widely dispersed command was critical and the 20th Transport Squadron was severely taxed to handle only the most stringent requirements. The need for liaison and communications aircraft was so urgent that air bases in the U.S. were surveyed to uncover any small C-45 type aircraft for Base and major unit commanders but few were to be found. Four ex-LATI Savoia-Marchetti's, offered by the Brazilians, were refused only because of the inevitable maintenance difficulties.

Since all civil aviation in Panama had been grounded at the outbreak of war, and would remain so for the duration, it was decided to purchase virtually every airworthy aircraft of the Panama civil air fleet for use in communications. This resulted in some of the most unusual aircraft to see OD finish during WWII;

PANAMA REGIST.	TYPE	C/N	USAAF MODEL	USAAF SERIAL
RX-2	Akron Funk B75L	unkn	UC-92	42-79548
R-12	Hamilton H-47	56	UC-89	42-79546
RX-24	Luscombe 8A	1653	UC-90A	42-79549
RX-25	Luscombe 8A	1809	UC-90	42-79550
RX-26	Piper J-5A	513	L-4F	42-79551
RX-20	Piper J-5A	515	L-4F	42-79552
RX-9E	Piper J-5A	514	L-4F	42-79553
RX-27	Piper J-5A	211	L-4F	42-79554
R-11E	Piper J-4A	1323	L-4F	42-79555
R-22E	Piper J3L-65	6170	L-4C	42-79557
R-23E	Piper J3L-65	6167	L-4C	42-79558
RX-17	Stinson SM-6000	A9110	UC-91	42-79547
R-10E	Taylor BL65	2495	L-2F	42-79556
R-4E	Taylor BF50	1170	L-2L	42-79559

Uniquely, a Junkers Ju-52/3m,c/n 5283, formerly PP-CBA of Syndicate Condor in Brazil, was purchased in Ecuador by USAAF and became the single UC-79, 42-52883. In service of several units (including the 20th Transport Squadron and the Bureau of Roads), it ranged from Aruba to San Jose in use.

A greater appreciation of the importance of the CAF in the defense of the Canal at the outbreak of war may be gained by looking at the strength of U.S. Naval units charged with defense of the Pacific approaches. Besides the two-dozen odd PBV's of Patrol Wing 3 out of Coco Solo, the Navy had:

- 2 Destroyers (old)
- 1 Gunboat
- 6 Submarines
- 3 Converted Yachts
- 5 Sub Chasers
- 1 Mine Sweeper
- 1 Seaplane Tender

As it turned out, the Canal was never seriously threatened from either side, nor were its outposts — with the notable exceptions of Aruba and Curacao, the scenes of 6th AF's only action. "B" and "C" Flights of the 59th Bombardment Squadron, with two and three Douglas A-20A's at Curacao and Aruba, respectively, had the distinction of being the first 6th Air Force aircraft to join action.

As at Pearl Harbor, the enemy struck the initial blow before the defenses were alerted. The first victims were five tankers — four British and the other Venezuelan — torpedoed and sunk during the early morning hours of 16 February 1942. Insult was added to injury when two of the ships were sent down while lying at anchor in San Nicholas harbor, Aruba. The enemy U-boat entered the anchorage, sank the two tankers, came to the surface and lobbed a few shells at the Lago oil refinery. Some fifteen or twenty minutes after the attack, a guard at the airfield on Aruba, about ten miles distant, reported that a fire had broken out at the refinery, and the air commander immediately alerted his unit. Ten minutes later an A-20 was sent up to reconnoitre. It reported

Typical of pre-War II Army Air Corps pilot groups, these officers of the 16th P.G. at Albrook Field in 1940 each went on to lead other units within months of the outbreak of war.

Standing l. to r.:

Lt. Albert Cate

Lt. Eugene Clark

Lt. Clarence L. Tinker Jr. (his father killed at Battle of Midway, Tinker Field now named for him)

Lt. Van H. Slayden

Lt. John Miller

Lt. Robert Rowland

Lt. Archibald Moore

Kneeling, l. to r.:

Lt. Lewis W. Chick

Lt. Clinton Wasen

Lt. James Mayden

Major Arthur L. Bump, Group CO.

Capt. Roger L. Browne

Lt. Philip Klein

Lt. Robert L. Baseler

Of the group, Lt. Tinker (Jr.) and Major Bump were killed in action during the War; the rest are retired or active in business.



At that time (1940) the whole Group had but 25 officers for three squadrons, the 24th, 29th and 43rd. The airplane was Maj. Bump's P-36, with red (upper port), yellow (upper starboard) and white cowl. (Robert L. Baseler)

ships on fire in the harbor and oil burning on the water, although nothing about gunfire or submarines. An hour and a half after the attack, the first report of submarine activity reached the air unit CO, and an anti-sub patrol was immediately instituted. But while the planes were off investigating a contact 45 miles off the island, an American tanker, tied up at the Eagle refinery dock four miles from the airfield, was torpedoed.

As a result of this attack, at least seven U-boats were reported attacked during the next two days and five of them, according to the air unit reports, were engaged solely by aircraft. But without radar, with crews untrained in anti-submarine warfare and in aircraft poorly suited to the task (mostly A-20's of the 59th, but also some B-18's) and armed only with 300 Lb. demolition bombs, the defenders had little luck. Actually, only three submarines were responsible for the havoc, one being the U-156.

Within the week following the initial attack, the Germans sank 21 vessels in short order. The onslaught continued and reached a peak in May 1942 when eight U-boats sank 35 ships in the Caribbean Sea Frontier, west of the shipping control line. By the end of the year 1942, the enemy had sunk, in the Caribbean and on the fringes of the Caribbean Sea Frontier, a total of 270 vessels comprising more than 1,200,000 tons.

Most of the sinkings took place in the waters around Trinidad and the approaches on the Atlantic side of the Canal. No successful air attacks against submarines were recorded in the Trinidad area, and but one in the vicinity of the Canal. A review of the operational reports for the period, however, indicates that the number of kills was not because of lack of attempts. Typical entries were, "B-18B sights surfaced sub which fires AA and MG. Plane drops five depth charges, sub submerges," or, "eleven aircraft fired on by subs . . .," or, "enemy sub fires on aircraft circling to bomb; aircraft damaged, forced to retire." A B-18B on patrol out of Trinidad was destroyed in action when both engines were shot from the aircraft, CPT Kenneth V. Varlson and his crew going into the drink. They were later rescued.

Late in August 1942 6th AF aircraft finally drew blood. The U-654 was caught and sunk off Colon by the often berated B-18's of the 45th Bomb Squadron out of France Field.

Throughout this period, despite the losses in shipping vessels, and while recognizing the submarines as a definite menace to the

Allied war effort, the 6th A.F. commanders were more than ever convinced that the principle threat was to the Canal itself by carrier-borne aircraft from the Pacific. The deployment of air strength reflected this belief. The ability to detect such a force at a point at which it could be deterred was considered to be the answer. Therefore, the Pacific arc of patrol aircraft at 900 mile radius plus long-range radar (SCR-271 and mobile versions) were relied on for detection. The patrols, however, scanned nothing but empty seas — while similar patrols to the north east battled German submarines.

Other events, less spectacular than submarine attacks, were an everyday part of the effort to defend and strengthen the Caribbean. The fate of a USAAF officer, an enlisted man and their guides on a jungle survey mission was typical of the dangers. Native tribesmen evidently frightened by their motor-driven canoe, shot two arrows into the officer's chest. After falling overboard, he was pierced again in the back of the neck soon disappeared in the murky water. The enlisted man drowned and three of the guides lost.

Sites for radar installations and auxiliary airdromes were literally hacked out of the jungle so thick a person could not budge his way through. There were cases when flyers had in-flight trouble, parachuted in sight of a base, and yet died before rescue parties could locate and hack through to them.

Indeed, between 1941 and 1942, the following accidents occurred to pursuit types alone in Panama and environs:

LANDING	GEAR FAILURE	CRASH IN SEA OR JUNGLE
P-36A	23	9
P-400	57	7
P-39D	8	20

The landing accidents, almost without exception, were due to weather (especially rain and resulting slippery 'runways'), obstacles on the runway (ranging from chickens to armored cars) or ground loops due to a combination of things. The statistics for gear failure are significant in that the P-36A's made most of the initial landings at the auxiliary airdromes. Thus the total seems not so glaring.

The minimal P-40 gear failures were a tribute to the sturdiness of the type, while the P-39 did not fare well on the jungle strips.

U.S. ARMY AIR CORPS UNITS ASSIGNED TO CARIBBEAN AREA TO 1945			UNIT	STATION	UNIT OF, EQUIPMENT, and NOTES
List inclusive of all known USAAC/USAAF squadrons with Caribbean Air Force, 6th Air Force, or predecessor units to 1945. Station listings (in some cases) refer to the main or HQ base of the unit though it was at other sites sporadically. "Equipment" column includes all representative types known to have been with the unit although only one or two examples may have been assigned. Major units (Wings, Groups) are omitted though most are shown in "Unit of" column. Credit is due the Maurer books referred to in Bibliography at end of this article, although numerous additions have been made here. Dates of station assignment are given in order of Month and Year.			22nd P.S. F.S.	Losey 1-41/12-41 Vega Baja 12-41/2-43 Waller 12-41/2-43 To CONUS	36th F.G. P-36A, P-39D, P-40E, AT-6
			23rd A.S. Sq.	Batista 2-43/4-43 Edinburgh 8-43 Zanderij 8-43/12-43 To CONUS	Unknown command. A-29, B-25
			23rd P.S. F.S.	Losey 1-41/3-41 St. Croix 3-41/11-41 Losey 11-41/12-41 Vega Baja 12-41/5-43 To CONUS	36th F.G. P-36A, P-39D, P-40C, P-40E, AT-6
1st. B.S. (H)	Rio Hato 11-40/5-41 Waller 5-41/10-42 To CONUS 10-42 Note a.	72nd Recce Gp. B-18, LB-30	23rd Tow Target Sq.	France 11-43/6-45	Unknown command. PQ-8, B-26C
1st Obs. Sq.	Rio Hato/David. Howard rotated 1-42/6-42 Howard 6-42/5-44	Unknown command, later became 41st P.R. Sq.	24th P.S. F.S.	France 4-22/10-32 Albrook 10-32/3-42 La Joya 3-42/9-42 Albrook 9-42/1-43 La Joya 1-43/5-43 Howard 6-43/3-44 Madden 3-44/8-44 France 8-44 -	6th Obs. Gp., 1 6th P.G. DH-4, S.E. 5A, MB-3A, PW-9 P-1 2E, P-26A, P-70. P-39Q, L-4, AT-6, P-40C, P-38L. BC-1
3rd B.S. (H)	France 2-40/12-41 Rio Hato 12-41/5-42 Galapagos 5-42/3-43 Note b.	6th B.G. (H) B-17B, B-17E, B-18, LB-30 B-24, A-17	25th B.S. (H) Notec.	France 4-22/9-37 Howard 5-43/6-43 Rio Hato 12-41 Galapagos 1-42 To CONUS	6th Obs. Gp., 6th B.G. (H) B-17B, B-17E, B-18, B-24, LB-30, LB-5, LB-6, LB-7 B-3, B-6, B-10, B-26
4th Obs. Sq. (PR)	Losey 4-41/10-43 Borinquen 10-43/5-45	72nd Rec. Gp., Antilles Air Command, became 4th T.R.S. OA-14, 0-47A, P-39D, 0-52, B-25, 0-49, L-1, B-18, L-4 UC-78, B-26	25th F.S.		Element of XXVI Fighter Command, c. Nov. 1943
5th B.S. (H)	Rio Hato 11-40/9-41 Beane 9-41/10-42 To CONUS	9th B.G. B-17B, B-18, B-18A	27th Rec. Sq.	Borinquen 12-39/4-42	Became 17th B.S. A-17A, B-18, B-18A
5th Rec. Sq.	Borinquen 1-42-4-42	Unknown command, became 395th B.S. B-18, B-18A	28th F.S.	Albrook 2-40/10-40 Rio Hato 10-40/11-40 Albrook 11-40/12-41 Chame/Paitilla/Pocri 1-42/8-44 Howard 8-44/9-45	37th F.G. P-26A, P-39Q, P-38L, P-40C, P-40E, P-39D
7th A.S. Sq.	Edinburgh 6-43	Antilles Air Command	29th B.S. (H)	Borinquen 2-42/6-42 Aguadulce 6-42/3-43 Anton 3-43/5-43 Galapagos 5-43/4-44 Rio Hato 4-45/10-45	6th B.G. B-18, A-17, B-24
7th Rec Sq.	France 1923/1941 Howard 1 1-41/12-41 David 12-41/8-42 Talara 8-42/5-43 Rio Hato 5-43/4-44 Galapagos 4-44/2-45 Rio Hato 2-45/-	Previously 7th Obs. Sq., became 397th B.S. R-3, R-4, JN-4, R-9, DH-4, HS-2L, OA-1, B-10, P-2, 0-11 OA-4, B-18, B-18A, A-17, OA-8, B-17B, LB-30, B-24	29th P.S. F.S.	Albrook 1-36/1-42 Madden 1-42/6-43	16th P.G., 6th B.G., 40th B.G. P-26A, P-40C, P-40D, BT-13A
8th A.S. Sq.	Batista Fd, Cuba 6-43	Antilles Air Command	30th F.S.	Albrook 2-40/10-40 Rio Hato 10-40/11-40 Albrook 11-40/11-41 La Chorrera 11-41/6-43 Albrook 6-43/10-46	37th F.G. P-26A, P-39Q, P-40C, P-40B,
10th B.S. (M) (H)	Borinquen 11-40/11-42 Edinburgh 11-42/10-43 Waller 10-43/12-43 France 12-43/5-44	25th B.G., VI Bomber Comm., Antilles Air Command	31st FS	Albrook Rio Hato/La Chorrera 2-40/5-42 Howard 5-42/3-44	37th F.G. P-26A, P-40C, P-40E, P-39
12th B.S.	Borinquen 11-40/11-41 Benedict 11-4/10-43 Coolidge 11-43/3-44	25th B.G., Antilles Air Comm.	32nd P.S. F.S.	Losey 1-41/6-43 Noted. France 3-44 Howard 1-45/10-46	36th F.G. P-36A, P-40E, P-39D, P-39Q P-38, P-39N
13th P.S. F.S.	Howard 1-42/11-42	53rd P.G. P-39D	35th B S (M)	Trinidad area w/det. elsewhere 10-41/3-44	25th B.G., Antilles Air Comm. B-18, B-18A, B-25
14th P.S. F.S.	Chame 1-42/1 1-42	53rd P.G. P-39D	39th Obs. Sq.	France 2-40 Waller 6-43	Attached to 12th P.W.; 72nd Recon Gp.)-49, L-1, 0-47A
15th Air Base Sq.	France	Became 15th A.B. Gp., A-17, OA-9, OA-4C, C33	43rd P.S. F.S.	Albrook 2-40/1-42 LaJoya/Pacora 1-42/6-43 Howard/La Chorrera 2-44/ 8-44 France 1-45/10-46	16th F.G. -36A, P-39, P-38, P-40N, P-40C
15th A.S. Sq.	Batista 7-43/10-43	Unknown command. B-25, B-24, B-34			
15th P.S. F.S.	La Chorrera 1-42/11-42 TO conus	53rd P.G. P-39D			
16th Air Base Sq.	Albrook	Became 16th A.B. Gp., A-17, C-29, OA-9, 0-19, C-33			
20th Trans. Sq.	France 12-40/2-42 Howard 2-42/6-43 Albrook 6-43-	Panama Air Depot, VI AF Service (See table in text)			

UNIT	STATION	UNIT OF, EQUIPMENT, and NOTES
44th Obs. Sq.	France 4-31/5-32 Albrook 5-32/7-41 Howard 7-41/10-41 Atkinson 1-42/4-42 Howard 6-42/6-43 To CONUS	6th B.G., 16th P.G., 40th B.G. 0-19, B-10, A-17, B-18, OA-8, B-17B, OA-4, B-18A, B-24
45th B.S.	Borinquen 1-42/6-42 France 6-42/11-42 David 11-42/2-43 Galapagos 2-43/6-43 Howard 5-43/6-43 To CONUS	40th B.G. B-18, LB-30.B-24
51st. F.S.	Rio Hato/Albrook 1-41/12-41 France /Howard w/det. elsewhere 12-41/1-42 La Joya 3-44/6-44 Howard 6-44/10-46	32nd F.G. P-26A, P-36A, P-40C, P-38, P-39Q, P-39N
52nd F.S.	Albrook 1-41/12-41 France 12-41/1-43 To CONUS	32nd F.G. P-26A, P-36A, P-40B, P-39Q
53rd F.S.	Rio Hato/Albrook 1-41 12-41 France 12-41/1-43 La Chorrera w/det. else- where 1-43/6-43 To CONUS	32nd F.G. P-26A, P-36A, P-40C, P-40E, P-39D
59th B.S. (L)	Rio Hato 1-41/10-41 Howard 10-41/12-41 Aguadulce 12-41/2-42 British West Indies 1-42/ 3-44 To CONUS	19th B.W. A-20A, B-18, A-17, B-25
74th Attack/ B.S. (M)	Albrook 10-33/7-41 Howard 7-41/11-41 Aguadulce 11-41/1-42 Guatemala City/Galapagos 1-42/8-44	6th B.G., 16th P.G., 40th B.G. 0A-3, 0A-9, B-6, Y10A-8, B-17B, B-17E, B-18, B-18A, B-18B, A-17, B-24
78th P.S.	France 4-31/10-32 Albrook 10-32/9-37 To Hawaii	16th P.G. P-12E.P-26A
99th B.S.	Atkinson/Zanderij 1-42/ 4-42	Unknown command N-18A, B-17B
101st B.S./ Ph.Sq.	France 2-40/3-42 Howard 3-42/8-42 Waller 8-42/2-44	Unknown command A-17, 0-47, 0-49, L-1, L-4, B-18, P-39D, UC-45, B-25, C-60, 0-52, UC-61, UC-78, F-10, A-25, L-5
108th Obs. Sq.	Rio Hato 1-42 Howard 6-42/6-43 (disbanded)	Unknown command. 0-47A, L-4, B-18, P-39D, 0-49, L-1, A-18, P-36A
395th B.S.	Borinquen 4-41 Rio Hato 6-42/5-43 To India 5-43	Previously 5th Recon. Sq. B-18, A-17, B-17, LB-30, B-24
397th B.S.	Howard 6-43 Rio Hato Galapagos 1-45	Previously 7th Recon. Sq. A-17, B-18, LB-30, B-17, B-24
417th B.S.	Puerto Rico 9-39 w/det. throughout Antilles to 6-43	Previously 27th Recon. Sq.
430th B.S.	Howard 7-41/10-41 Atkinson 11-41 To CONUS	Previously 44th Recon. Sq.

NOTES:

- a. CONUS - Continental U.S.
b. And other stations on the Pacific arch until 1946.
c. 25th B.S. made Goodwill Flights to El Salvador in May 1935, March 1938, Nicaragua in May 1935, Guatemala in February 1938, and a mercy flight to Chile Jan. 28 - Feb. 13, 1939.
d. With detachments in the Antilles

The aircraft which crashed at sea or in the jungle were almost all "write-offs" and those pilots of the 50-odd aircraft, who survived), lived some exciting moments awaiting rescue.

These figures, of course, are not conclusive, and certainly do not represent the total, since scores of P-40, P-39 and P-38 aircraft were to frequent the gradually improved 6th AF airfields through the balance of the war years. However, they do give an image of the hazards the command faced during the most critical times.

One oddity experienced by 6th AF crews, who were often posted throughout the area on a rotational basis, were encounters with "axis" aircraft, in the hands of our Central and South American Allies during the early war years. Among the types that were seen were Caproni Ca. 309, Ca. 111 and Ca. 114's of the Peruvian Air Force at Talara; Meridionali Ro. 37 bis biplanes of the Ecuadorian Air Force at Salinas; Fiat C.R. 32 and BR. 20 aircraft in and near Trinidad from the Venezuelan Air Force, and Junkers Ju-52/3m aircraft of the Colombian Air Force. Many were visitors to the Canal Zone — and usually unannounced, much to the annoyance of fighter command. By 1943, however, most of these types were grounded for lack of spares, and were replaced by U.S. supplied Lend-Lease aircraft. Much to the chagrin of the 6th AF, always aircraft-poor nearly 1,600 transport, liaison and trainer airplanes — as well as a few combatant types — passed their bases bound for the nations to the South.

1943 AND AFTER

By October 1942, the 6th AF had reached its peak wartime strength and a gradual decline began. The submarine menace was contained but continued to a lesser extent. Bombers, which had carried the brunt of 6th AF action through 1942, numbered only 125 by the end of 1942. Of these, about 65 were the venerable B-18's. The number of B-24's had risen to 20, but, the number of B-17's had fallen to 17. The promised deliveries of additional B-17's and other types never materialized. Six of the B-17's had worn out or crashed, and the hybrid LB-30 strength stood at about 13. The 25 Navy PBY's had been withdrawn from the operational control of 6th AF and were subsequently used on Army patrols only when they could be spared by the Navy.

The bomber situation (actually, "patrol" plane situation would be more accurate) was ameliorated somewhat when on 1 March 1943 five OA-10's were assigned to 6th AF, but from then on bomber strength decreased. B-18's reaching their peak number in January 1943, but steadily dwindled due to attrition, age, and lack of reinforcement.

Fighter aircraft, on the other hand, at 18 January 1943 was dispersed as follows in the Panama area:

UNIT	NUMBER	TYPE	BASE
43d Fighter Sq.	17	P-39D & P-40N	La Joya No. 1, RdeP.
29th Fighter Sq.	18	P-40D & one BT-13A	Madden, RdeP.
24th Fighter Sq.	17	P-39D	La Joya No. 2, RdeP.
28th Fighter Sq.	15	P-40E	Chame No. 1, RdeP.
31st Fighter Sq.	14	P-39D	Howard Field, CZ
52d Fighter Sq.	10	P-39D	New France Field, CZ
53d Fighter Sq.	13	P-40C & P-39D	Old France Field, CZ
Hqs, XXVI			
Fighter Command	3	P-40B & P-40C and 2 P-26A's!	Albrook Field, CZ
30th Fighter Sq.	27	P-40B, C & E	Anton, RdeP.
E Fit. 53d F. Sq.	2	P-40C	San Jose, Costa Rica
A, B Fit 51st F. Sq	11	P-39N	Galapagos Islands
C Fit, 51st F. Sq.	6	P-39N	Salinas, Ecuador
D Fit. 51st F. Sq.	8	P-39N	Talara, Peru
E Fit, 51st F. Sq.	6	P-39N (and 5 P-26A's)	Guatemala City

Thus, a total of 159 fighter/interceptor aircraft were available for Canal defense.

The nature of the Caribbean defensive forces began to change. With the conttatiing withdrawal of submarine activities from the Caribbean, the 6th AF settled down to the monotonous job of

securing the skies over the water and jungles, the only seaborne enemies remaining being sharks and the only airborne enemies were mosquitos. With the immediate danger past, the area was suggested to be an ideal theater for absorbing combat-trained crews into existing tactical units for on-the-job training — especially if the crews were destined for theaters which had extremely unpredictable weather and jungle hazards, such as the CBI and South Pacific.

By 1 January 1944, 6th AF was virtually a huge training area, yet relative strengths of the Panama and Puerto Rico areas were:

PANAMA SECTOR:		PUERTO RICO AND ANTILLES SECTOR:	
B-17E, B-24D, LB-30	=46	RB-18, RB-18B	=54
P-39D & N; P-40B, C, E,	=234	RA-20A	=6
L-1: C-47A; P-39N	=25	L-1: C-47A; C-52	=18
C-47, C-49	=11	P-39D & N	=25

Interestingly with the exception of a few P-39N's and auxiliary types not listed here, the Command retained the same type aircraft with which it started the war two years previously, and, in many cases, the survivors of pre-war days.

1944 AND 1945

With each passing month, the war moved farther and farther from the Caribbean. Consequently priorities for re-equipment and rotation of units stationed within 6th AF declined steadily. By January 1945, B-17G's arrived for duty at Rio Hato, and P-38J (24) and P-38L's (13) had arrived to — at last — replace the weary P-39Q's and assorted relatives, (116 of these were shipped to Panama to await disposal). The P-38's received were second-hand aircraft from Hawaiian units and most of the B-17G's were ex-training aircraft. Twenty-eight P-40N's were still on hand, as well as a solitary P-40C. Seven B-24D's labored on, as did the Boeing XC-105 (alias B-15), by then in its final days of existence.

The only other curiosity that graced the 6th AF's golden years were single examples of the B-25 and B-26C, engaged in airway survey work and high-speed transport. The 6th AF ended World War Two with more AT-6's, PT-19's, BT-13A's and Piper L-4's on land than it had combat aircraft when it started the war.

The 6th Air Force will not be immortalized for carrying the war to the enemy, though contrary to popular belief, it did engage him. It's epitaph to history may lay in the fact that it actually accomplished its mission, allowing the free flow of traffic through the vital Canal throughout the war.

Very likely the last words on the subject of German and Japanese intentions toward the Canal during World War Two have yet to be recorded. Hermann Goering said in April 1939 that the Panama Canal was not as invulnerable as the Americans thought. "Two of my bombs," he said, "dropped on the Culebra Cut would render the entire waterway unusable in ten minutes." Goering found no chance, however, to drop these two bombs.



ACKNOWLEDGEMENTS

Without the friendship and assistance of Fred Young, Command Historian, U.S. Air Forces Southern Command (USAFSO), this article could never have been compiled. Sincere thanks also to the people who were able to assist in the unearthing of other material and photos for the article, especially Al Meryman, William T. Larkins and Robert L. Taylor (of AAA). Thanks also to L/Gen E.B. LeBailly, USAF, W.K. Giroux, R.M. Hill, John C. Chalmers, Jack P. Kennedy, Marvin P. Mayo, the patient staff of the Nat'l Air & Space Museum and the Air Force Museum and an unidentified source in Montgomery, Alabama, from whom a packet of photos was received.

NOTES:

- "Camp Misery" was not in universal use among the early troops at France Field — it was usually used in letters home to enlist sympathy. The most common name for the area was Coco Walk.
- The reference to Douglas O-2's with Canal Zone based Air Corps units is from Maurer-Maurer's *Combat Squadrons of the Air Force, World War II*, which lists representative types of aircraft used by individual squadrons throughout their history. No record could be found for Douglas C-2's use in the Canal Zone in AAF Form 1 files, however.
- Official records in Washington designate the unit as the "Panama Canal Air Force (PCAF)."
- See Note 2.
- A discrepancy occurs here in the official records in the US Air Force Southern Command which indicate the site of the crash was a hill near Capira, Panama, some 20 miles to the south-east of Quarry Heights. The official AAF Form 1 cards for these aircraft, however, reviewed by the Author in Washington, D.C., specifically identify the site as Quarry Heights, C.Z. The Capira site was born out by a farmer who came forward three years ago to repeat the story of three planes playing "follow the leader" into the side of a hill near Capira in a rain storm. They were P-40C's 41-13352, -13404 and -13504 of the 16th P.S.
- In fairness, it must be stated that these views represented the policy of the command as presented in the official U.S. Army history covering this theater, and differs in degree from the views of B/Gen. Hubert Dargue, CO. of the 19th Wing, whose thinking, circa 1936, was motivated by events in Asia (i.e., the expansion of the Japanese Empire and its potential for making the Pacific Ocean into a Mare Nipponese), as much as by the wild speeches in Central Europe or the fate of the Ethiopians.
- Just prior to departing from the Canal Zone in June 1969, a totally unexpected artifact of ore was discovered by a group of Boy Scouts on an excursion to the Rey Islands in the Bay of Panama. The Author personally surveyed this relic, (brought into the Rodman Naval Station in the Canal Zone) none other than a midget submarine of the late Imperial Japanese Navy.

BIBLIOGRAPHY

- Hupperich, Herman. "The Caribbean — Vital Link in Western Hemisphere Defense During World War II."
- Maurer-Maurer, Editor. *Combat Squadrons of the Air Force, World War II*. USAF Historical Division, Maxwell AFB, Ala. Printed by Gov't Printing Office, Washington, D.C.; 1969.
- Mitchell, William. "Panama Is Defenseless." *Popular Aviation*, Sept. 1940.
- Panama Canal Co. "Panama Canal Record," numerous volumes.
- U.S. Air Force. "History, 19th Wing USAAC," "History, Caribbean Air Force (CAF)," "History, Sixth Air Force" and allied files. Office of the Command Historian, USAFSO, Albrook AFB, C.Z.

(CONTINUED ON PAGE 57)

ABOUT THE AUTHOR

Dan Hagedorn, AIR BRITAIN specialist on Panama and the Canal Zone, spent three years (1966-1969) in the area he has described here, as an Army journalist with the U.S. Army Southern Command, and visited all of the aerodrome sites mentioned in his article within Panama. He is presently approaching a degree in history and is a graduate of the Defense Information School. He is currently an Army Nurse Corps Officer Procurement representative in Pennsylvania and New York and lives with his wife Linda and two children in Niagara Falls, N.Y. Dan earned his wings in 1962 at age 16, flying a Cessna 120 taildragger, and his primary interests are in the area of Latin American aviation.