



National Historical Journal

How WWI enabled
1918's pandemic,
and the flu's effect
on the Army Air
Service **PAGE 11**

JULY-DECEMBER 2020

SERVING CIVIL AIR PATROL, THE U.S. AIR FORCE'S AUXILIARY

Radar team one of a kind

PAGE 3

**Capt. Selma Kantor Cronan
flies through glass ceiling**

PAGE 23

Guthrie, former cadet, AAF vet

PAGE 9

**Aviator & CAP Capt.
Selma Kantor Cronan**



National Historical Journal

Maj. Gen. Mark Smith
NATIONAL COMMANDER

Lt. Col. Richard B. Mulanax
NATIONAL HISTORIAN

Maj. Kurt Efinger
CHIEF, PUBLICATIONS AND RESEARCH DIVISION
AND EDITOR-IN-CHIEF

Lt. Col. Douglas E. Jessmer
PUBLISHING EDITOR

Maj. Marc Henderson
MANAGING EDITOR

Maj. Erik Koglin
GRAPHICS EDITOR

Maj. Tim Bagnell
RESEARCHER/WRITER

The Civil Air Patrol National Historical Journal is published biennially by a staff of academic historians and professional editors. As such, we recognize the demand for quality publications reflecting a variety of interests to our readers, and strive to provide the best in feature and thought-provoking articles. We trust you'll enjoy this publication and consider contributing to its mission in providing a forum for Civil Air Patrol's great traditions.

We receive quality submissions and letters to the editor from across the CAP community. Email contributions to mhenderson@cap.gov.



Civil Air Patrol
U.S. Air Force Auxiliary

This is an official publication of Civil Air Patrol
National Headquarters
105 S. Hansell St., Bldg. 714
Maxwell Air Force Base, AL 36112

PREFLIGHT

We remember Col. Compton



The staff of the *National Historical Journal* wants to acknowledge the passing of a Civil Air Patrol icon.

Col. Charles E. Compton died June 16, 2020, three days before his 104th birthday.

Rejected for World War II service by the U.S. Army Air Forces and the U.S. Navy because he lost a kidney to illness at 16, he joined CAP and flew surveillance patrols from Coastal Patrol Base No. 1, in Atlantic City, NJ.

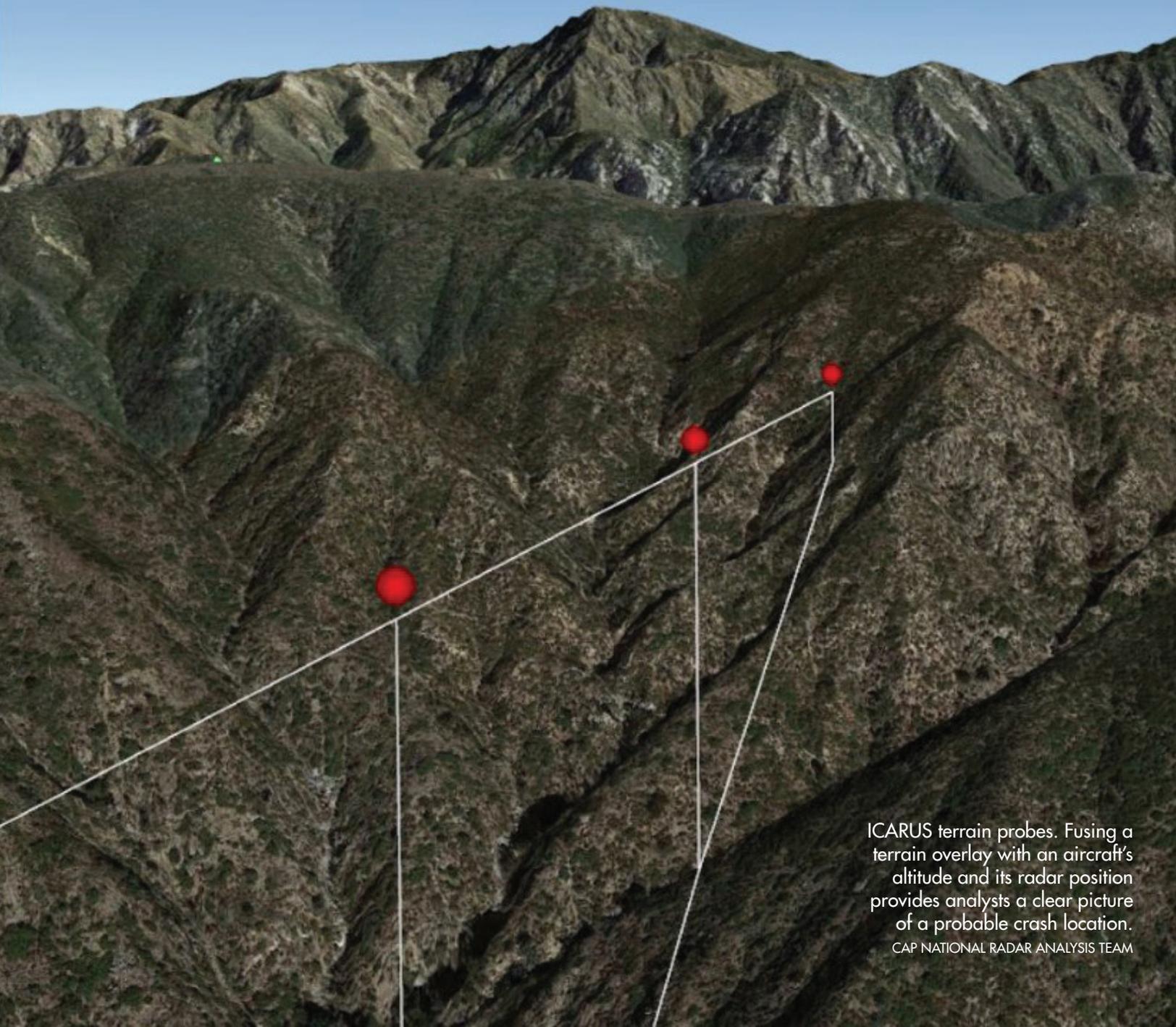
Today, a CAP squadron in Evanston, Ill., is named in his honor — the Colonel Charles Compton Composite Squadron.

He testified to Congress on the service of the CAP in World War II. And for his service in CAP during the war, he was a recipient of the Congressional Gold Medal — the nation's highest expression of national appreciation.

Our next edition will include a fitting tribute to his service. ▲

One of a kind

CAP's
National
Radar
Analysis Team
and its tools



ICARUS terrain probes. Fusing a terrain overlay with an aircraft's altitude and its radar position provides analysts a clear picture of a probable crash location.
CAP NATIONAL RADAR ANALYSIS TEAM

By Maj. MARC R. HENDERSON, CAP

Civil Air Patrol's National Radar Analysis Team (NRAT) conducts radar forensics on missing aircraft to assist national search and rescue (SAR) efforts. When called upon, members of the 10-person team directly support the Federal Aviation Administration (FAA) and the Air Force Rescue Coordination Center (AFRCC) with aircraft SAR data derived from their specially designed software.

The 10-person NRAT team is the only source for enhanced aircraft-specific SAR data, analytical tools, and expertise in radar forensics. NRAT's members combine radar data from the FAA, the Air Force, and data from a number of other sources into purpose-built software designed by NRAT team members to quickly provide the most probable location of an aircraft crash site allowing SAR assets to quickly locate & aid crash victims.¹

A National Transportation Safety Board (NTSB) radar expert vocalized the need for a dedicated radar forensic team in 2007. In a 2010 letter to the FAA, the NTSB made a formal recommendation to the FAA to tighten its procedures for reporting lost aircraft and getting radar data quickly to the AFRCC. An FAA safety official responded by explaining the FAA had accident investigators, but most of their time was taken up with other duties, and he cited aging equipment and an inability to access radar data remotely as a chief cause for delayed responses to the AFRCC. The NTSB recommended that the FAA always have a team of radar experts available to retrieve data remotely from computers, analyze it, and provide a location to the Air Force.²

Months prior to the NTSB's formal recommendation in 2010, three CAP members also recognized the need for getting radar data quickly to the AFRCC. Under the command of Col. Greg Cortum, Lt. Col. John Henderson, and Capt. Guy Loughridge formed NRAT in 2009. The two CAP officers had supported the Air Force Rescue Coordination Center with SAR radar forensics since 2000; Henderson

through a function of the Air Force's 84th Radar Evaluation Squadron (RADES), and Loughridge as a CAP member. Having worked together on more than 400 SAR missions, they knew they could shorten the 'crash-to-rescue' chain by leveraging their different areas of expertise and by gathering other experts from across the country.³

“We’ve got the best experts in the world at radar forensics and programming.”

LT. COL. MARK YOUNG
NRAT commander

CAP's Rocky Mountain Region was NRAT's first sponsor. Today, NRAT sponsorship lies with CAP's National Headquarters; providing the team with needed servers and analysis computers. Mr. Argon Helm, another 84th RADES member, joined NRAT early, bringing with him a wealth of experience as a radar engineer and software programmer. Together, Helm and Loughridge produce most of the team's unique software tools. The team has grown to its current size, hand-picked for its high level of expertise in radar, aviation, and computer science. Most have Air Force and FAA backgrounds.⁴

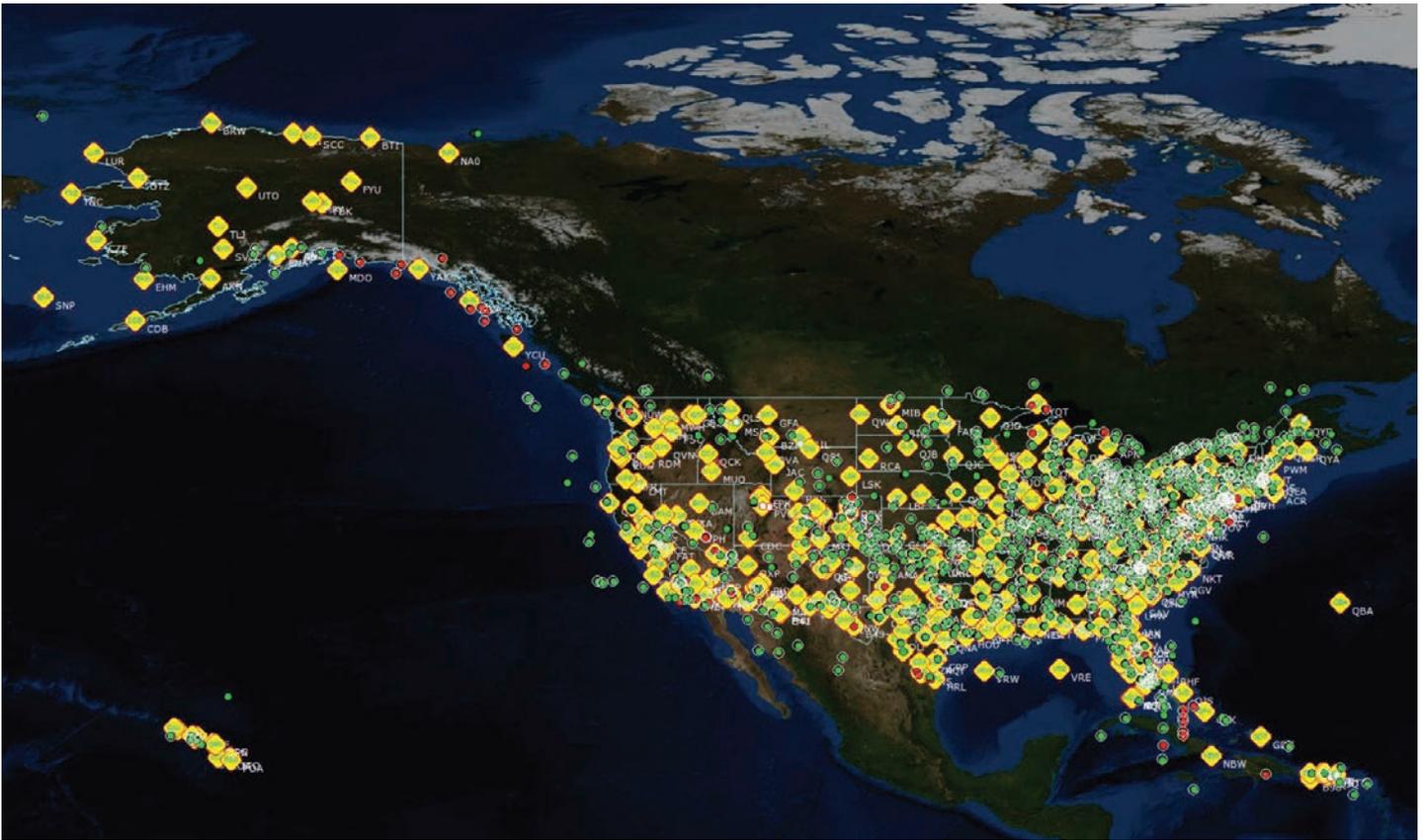
Under CAP National Headquarters sponsorship, NRAT was organized as a squadron in 2013, NHQ-008, and Lt. Col. Mark Young is NRAT's commander. In an interview for the Aircraft Owners and Pilots Association in April 2020, Young explained the progress NRAT has made since its inception, ►

1. John Henderson, "National Radar Analysis Team, History and Capabilities 2020 Update," Civil Air Patrol, 2020.

2. Lowy, Joan. "Small-Aircraft Safety Net Has Holes." *The Atlanta Journal-Constitution*. April 4, 2010, Main edition, sec. Nation. <https://www.newspapers.com/image/422674638>.

3. Henderson, 2020 Update.

4. Henderson, 2020 Update.



CAP NATIONAL RADAR ANALYSIS TEAM

Archived SAR Radar Data. NRAT records and archives radar data from 380 radars for up to 30 days. Each yellow diamond represents a radar site.

The team got its start when an Air Force A-10 went down in Colorado and was missing for three weeks. Loughridge, a team lead, wrote software for tactical fire mapping; he adapted available data, made it 3D, and superimposed it on a topographical map — finding the A-10.

The team has completed about 1,000 missions, and members are approaching 100,000 hours programming NRAT’s software. In 2003, notification-to-location determination took 6 to 8 hours. Access to the FAA’s ADS-B data was added, then NRAT got access to Aireon’s satellite ADS-B data.⁵ Last year it took Young’s team 20 minutes to run a data request; now it’s 4 to 5 seconds.

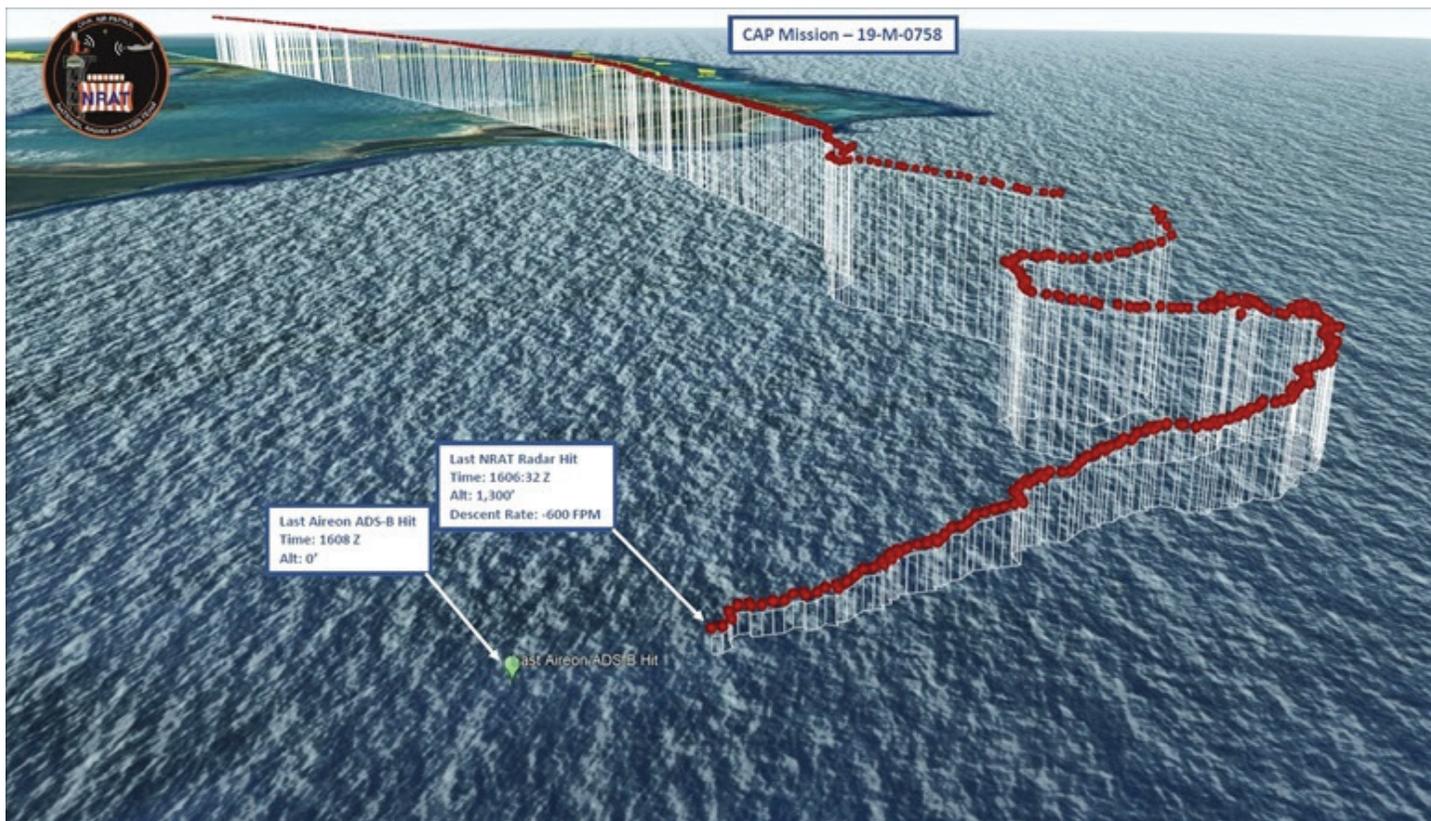
“We’ve got the best experts in the world at radar forensics and programming,” he said.⁶

NRAT’s radar forensics tools

Radar and ADS-B are not the only data sources the team uses while determining the most probable locations to send SAR responders. Data from 380 radars that stretch from Hawaii to Alaska, and across North America to Bermuda is combined with data from a number of other sources into purpose-built software designed by NRAT team members. NRAT can archive radar data for as long as 30 days, and the data is recorded in a format the team developed to enhance it for SAR.⁷

With its customized software and hardware provided by CAP, NRAT has been able to reduce the request-to-actionable data time from about 4 hours to 5-10 minutes. This was made possible with a data request engine designed by the team that is able to retrieve a 1-hour/1-degree block of data in ►

5. Automatic Dependent Surveillance–Broadcast (ADS–B) is a surveillance technology with which an aircraft determines its position via satellite navigation and periodically broadcasts it, enabling it to be tracked. Aireon is the proprietor of ADS-B data.
 6. Mike Collins, “ADS-B Joins Search-and-Rescue Resources,” AOPA News & Videos (Aircraft Owners and Pilots Association, April 22, 2020), <https://www.aopa.org/news-and-media/all-news/2020/april/22/ads-b-joins-search-and-rescue-resources>.
 7. Henderson, 2020 Update.



CAP NATIONAL RADAR ANALYSIS TEAM

A recent NRAT mission. Red dots on this plot by CAP's NRAT show radar hits on a Cessna 210 down to 1,300 feet msl. The green marker is the final ADS-B data point from the aircraft on the surface.

ten seconds, to which the engine adds weather data, such as NEXRAD⁸ and METAR⁹ to the SAR data request package.¹⁰

Another analysis tool designed by NRAT for SAR radar analysis is ARGUS. In one integrated display, ARGUS fuses data from radar, weather, terrain warning, radar coverage prediction, and multiple map imagery sets. Advanced filtering capabilities allow the analyst to search through millions of radar targets and narrow down to the missing aircraft. A 'speed ring' allows the track to be reacquired through extensive radar coverage gaps. ARGUS has the ability to display radar coverage, which allows the analyst to greatly reduce the search area by eliminating areas with good radar coverage. ARGUS's terrain warning mode enables

the analyst to predict areas where the aircraft may encounter terrain.¹¹

An average mission

The AFRCC serves as the single agency responsible for coordinating on-land federal SAR activities in the 48 contiguous United States, Mexico and Canada.¹² When a distress call is received, the AFRCC investigates the request, coordinates with federal, state, and local officials, and determines the type and scope of response necessary. Once verified as an actual distress situation, AFRCC requests support from the appropriate federal SAR force. When AFRCC support includes Civil Air Patrol, the NRAT team members are alerted of the ►

8. NEXRAD is a network of 159 high-resolution S-band Doppler weather radars. Its technical name is WSR-88D (Weather Surveillance Radar, 1988, Doppler).

9. METAR is a standardized format for reporting weather information. Typically, airports and weather observation stations around the world report their weather hourly. Their raw METAR reports are highly standardized through the International Civil Aviation Organization (ICAO), which allows it to be understood throughout most of the world.

10. Henderson, 2020 Update.

11. Henderson, 2020 Update.

12. "Air Force Rescue Coordination Center," U.S. Air Force, March 1, 2004, <https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104567/air-force-rescue-coordination-center/>.

mission via the CAP Mission Alerting System.

The on-call NRAT analyst confirms ALNOT¹³ data with AFRCC and gets any amplifying data to aid analysis. Analysts use NRAT's web site to collaborate, using a chat system to communicate between AFRCC, CAP's Cell Phone Team, and CAP incident commanders. Using ARGUS, an NRAT analyst creates one-degree structured data requests, based on the projected route of flight, take off time, and speed of the aircraft. Several NRAT analysts collaborate while sifting through archived radar data to find the right set of radar targets belonging to the missing aircraft.¹⁴

Once their target is located, an NRAT analyst studies the end of track to determine where the aircraft ended up after the last radar hit. Factors included in this assessment include weather, radar coverage prediction, terrain warning, and the time of day.¹⁵ The analyst then sends the track data to a Briefing Production Folder that sorts the data and produces briefings in less than two minutes. The briefing is an enhanced Google Earth product that can be animated with enhanced overlays, such as time-synced NEXRAD overlays and METAR data, aircraft altitude-synced terrain warning and radar coverage prediction overlays. This interactive briefing tool is located on NRAT's website, and it provides even more info than the Google tool. The time from notification to actionable intel can be 10 minutes to several hours, depending on mission complexity.¹⁶

In one recent mission, NRAT tracked a Cessna 210 down to 1,300 feet MSL using data from the Grand Turk air traffic control radar. Supplementing the radar was satellite-based Aireon ADS-B data that showed the airplane at sea level. The Cessna 210 ditched at 1608Z. "In this particular search it started as a Bahamian mission. They asked the United States for help," Young told an AOPA journalist. At 1702Z, NRAT received

NRAT is beta testing a tool for near-real-time track analysis, called ICARUS. The team designed ICARUS to provide crash alerts within 15 minutes of a probable crash.

alert notification, and by 1708Z produced a map showing the data, and recommended that the U.S. Coast Guard be launched. From the last radar hits at 1,300 feet MSL, the NRAT team could give the Coast Guard an estimated ditching location, which was corroborated by the ADS-B data.¹⁷

What's next?

NRAT is beta testing their most-recent tool for near-real-time track analysis, ICARUS. The team designed ICARUS to provide crash alerts to NRAT within 15 minutes of a probable crash. ICARUS processes more than 20 million radar targets per hour and archives its data in the SAR Track Database. This first-of-its-kind system uses a scoring system to determine the likelihood of a crash, and then sends an alert if it determines a crash was likely. If a track fades from radar, ►

13. ALNOT stands for alert notice. It is "a request originated by a flight service station (FSS) or an air route traffic control center (ARTCC) for an extensive communication search for overdue, unreported, or missing aircraft," explains the Aeronautical Information Manual.

14. Henderson, 2020 Update.

15. Weather: Visual Flight Rules (VFR), Marginal Visual Flight Rules (MVFR), Instrument Flight Rules (IFR), Low Instrument Flight Rules (LIFR); Mountain Obscuration? Thunderstorms?; Radar Coverage Prediction: Why did aircraft fade? Where's the next coverage; Terrain Warning: Heading into higher terrain? Blind canyons ahead?; Time of Day: Day?, Night?, Evening Civil Twilight?, Full Moon?; from John Henderson, "National Radar Analysis Team, History and Capabilities 2020 Update," Civil Air Patrol, 2020.

16. Henderson, 2020 Update.

17. Collins, AOPA, April 22, 2020

ICARUS further analyzes the data using a scoring system to determine if the disappearance was normal, or if the aircraft was in distress. For example, a normal track fade would occur if the aircraft entered an “airport bubble.” Abnormal scores may occur after analyzing multiple factors related with the track fade, such as the surrounding terrain, radar coverage and known coverage gaps, the track’s MODE 3 code, weather, and even rapid descent or erratic maneuvering. ICARUS can change the ‘crash-to-notification’ time span from hours, and sometimes days, to minutes. If the team receives an alert from ICARUS, the analyst forwards the alert information to AFRCC for a decision on starting a mission.¹⁸

Henderson, NRAT’s vice commander, said, “The heart of ICARUS is its ability to use artificial intelligence to think and react, emulating what a trained, experienced NRAT analyst would do. ICARUS looks at “factors” that contribute to a crash or a poor pilot decision.”¹⁹

If a track achieves a high enough score, the system produces an alert evaluation package, and it alerts the NRAT team, who evaluate the validity of the data. If the team agrees with ICARUS, NRAT sends the alert information off to AFRCC for their decision on starting mission. Fewer SAR assets are required for validation of the crash because the analysis has already been accomplished. A single CAP aircraft, or state/local SAR assets could quickly validate crash. Using ICARUS, NRAT is able to change the “crash to notification’ time span from hours, and sometimes days, to minutes.²⁰

ICARUS earned its first saves just three weeks after the team brought it online for beta testing. In August 2019, the AFRCC credited NRAT with two saves for providing the Coast Guard with the latitude and longitude of a downed Cessna 206. The team had the latitude and longitude in 15-30 seconds after obtaining ADS-B data, and then relayed the plane’s location to

the Coast Guard within a couple minutes.²¹

In a 2019 interview for *Airman* magazine, Civil Air Patrol’s national commander, Maj. Gen. Mark Smith, gave the radar analysis team high praise and summarized the team’s impact on SAR:

The technology has come light years. Back in the day, it was needle, ball, and compass for flying the airplane and it was eyes outside the cockpit for trying to find what you’re looking for. The technology has come along which really enables us to provide a level of support and service to Air Force, Federal Emergency Management Agency and other emergency response and search and rescue, that just wasn’t possible before.

Now what we have today is radically different, in large degree, because of technology that’s been brought to bear by CAP volunteers... the National Radar Analysis Team. These are a group of volunteers who have developed software that takes the FAA radar returns and is able to fine tune that from the time that radar returns are lost to really narrow down the box to where they have a higher degree of confidence, where that missing airplane might be. The relationship they have with FAA, based on proven performance, is so good that there is a direct linkage between FAA and our National Radar Analysis Team to get them the information they need.

We can provide that information back to the folks looking for that missing airplane and it (has) helped to find those folks much quicker than in the past.²²

In search and rescue, every minute matters, and CAP’s National Radar Analysis Team continues to improve on their original goal, and the SAR motto – shorten the ‘crash-to-rescue’ chain, so that others may live. ▲

18. Henderson, 2020 Update.

19. Henderson, 2020 Update.

20. Henderson, 2020 Update.

21. Civil Air Patrol, “Radar Analysis Team Uses New Tool to Lead Searchers to Downed Seaplane,” CAP News (Civil Air Patrol, August 20, 2019), <https://www.cap.news/radar-analysis-team-uses-new-tool-to-lead-searchers-to-downed-seaplane/>.

22. Joseph Eddins, “Serving, Saving, Shaping,” Defense Visual Information Distribution Service (Airman Magazine, January 22, 2019), <https://www.dvidshub.net/image/5090368/serving-saving-shaping>.

*With World War II in progress, Guthrie wanted to do his part.
CAP was the avenue he pursued.*



COURTESY OF THE GUTHRIE FAMILY

Three generations of Civil Air Patrol — Samuel J. Guthrie (center right), in front of the Sun Seaman's Memorial statue in Marcus Hook, Pa., in May 2015. It was the day Guthrie was presented a Congressional Gold Medal — the nation's highest honor — for his CAP service during World War II.

Remembering Samuel Guthrie

CAP cadet, Army Air Corps veteran leaves family aviation legacy

By Lt. Col. MICHAEL J. GUTHRIE, CAP

Samuel J. Guthrie (1927-2020) was born in Wilmington, Del., to Rowland J. Guthrie and Catherine T. (Rowe) Guthrie. During his early teenage years, World War II was in progress in Europe and Asia; the United States was on the sidelines.

Although the United States wasn't involved in the conflict, young men were being drafted for one year of military service. CAP formed Dec. 1, 1941, as part of the civilian defense program.

During this time, young Sam Guthrie was in the ninth grade and working at the Wilmington ballpark, before, during, and after a game. If other activities were happening at the ballpark, he was there for those also. On Dec. 7, 1941, a professional football team played at the ballpark while he was working. He was going back and forth between the refreshment stands and the kitchen when he heard a radio news flash that Pearl Harbor had been attacked. He said that at that time, they'd never heard of "Pearl Harbor." A lot of "GIs" attended the game; however, due to the breaking news, those soldiers were told to "return to base immediately."

With the war in progress, and being 15 years old, Sam wanted to do his part in the war effort. With a passion for building model airplanes and gliders, and the desire to fly, he joined CAP's Delaware Wing. At the time, CAP didn't own any aircraft, so they were supplied by CAP pilots.

Cadets primarily trained to become Army Air Forces aviation cadets, and studied all aspects of aviation from ground-school, navigation, aircraft engines, Link trainers (mechanical-cockpit flight simulators), and first aid. While a cadet member, Samuel Guthrie achieved the rank of first sergeant, which at the time was the highest rank a cadet could attain. He was eventually promoted to the position of cadet squadron commander of the Wilmington Squadron. In addition, to the normal CAP duties of search and rescue, Delaware Wing was involved in another vital mission for the country — to perform coastal patrols in search of German submarines, downed airmen, and sailor survivors from sunken ships in the Atlantic Ocean.

Even the high schools were getting involved in

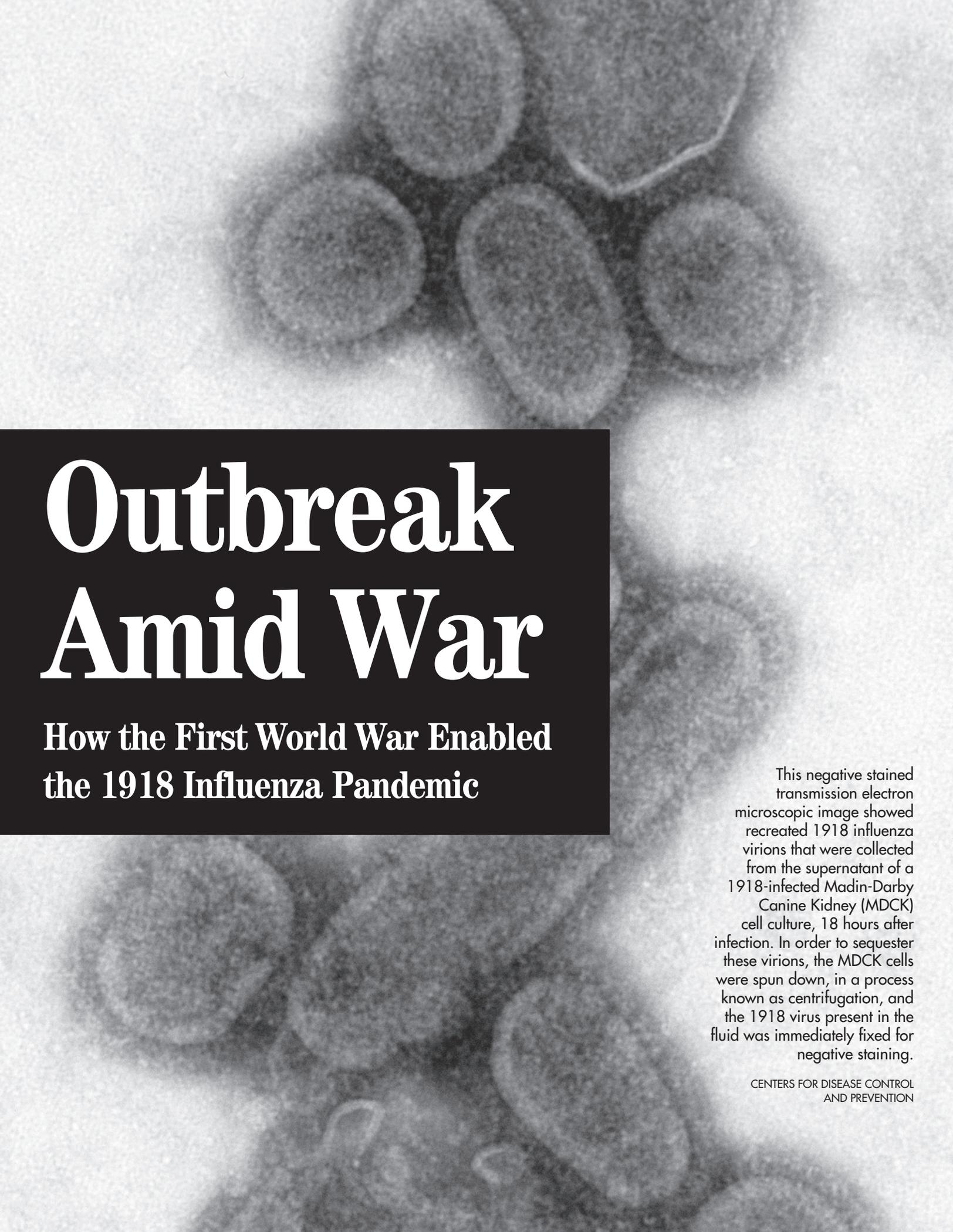
the war effort. They formed radio groups known as the Victory Corps. Samuel Guthrie, along with many other students, became their team captain. Another organization he joined was the Air Corps Air Combat Crew Reserve (ACACCR), and he was a member for a year while waiting for orders to active duty with the Army Air Forces. In 1945, while waiting on those orders, he left to do his annual CAP encampment at Dover Army Airfield, Del., a P-47 advanced fighter base. During this training, the atomic bomb was dropped to force a Japanese surrender. It was also while at the training that he received orders to deploy with the ACACCR.

Sadly, the "bad" news was that the Air Corps Cadet Program closed, and all but basic training had been stopped. 18 year-old Pvt. Guthrie deployed and went through basic training like "greased lightning." After graduating from basic, he was sent to Europe to replace a veteran B-26 bomber gunner sergeant named George Knowles.

After the war, he remained in Germany and received orders to act as an escort at the Nurnberg (Nuremberg) trials. It was at Nurnberg, while escorting dependents, that he and some of his fellow GIs met the German Field Marshal Herman Goering, who was on trial for "war crimes and crimes against humanity."

After leaving the service, he married his sweetheart, Elizabeth M. Loughery. They met when she was 17 and he was 19; they married when she was 22 and he was a month short of 25. They raised three sons and a daughter, who, in turn, gave them six granddaughters and six grandsons. Their oldest sons, who were interested in flying, became CAP cadets. One of those sons is Lt. Col. Michael J. Guthrie of Alabama Wing, whose wife, Capt. Dorothy Guthrie; son, Maj. Michael Guthrie; and two daughters, Capts. Holly Andino and Catherine Guthrie; are also members of Alabama Wing.

Samuel J. Guthrie Sr.'s CAP decorations include the Wartime Service Ribbon, Tow-Target & Tracking Ribbon, World War II Missing Aircraft Ribbon, and the Congressional Gold Medal. His military decorations include the American European Campaign Medal, World War II Victory Medal, Good Conduct Medal, and European Occupation Ribbon. ▲

A transmission electron micrograph showing numerous spherical influenza virions. Each virion has a distinct outer envelope with surface spikes and a darker, textured interior. The virions are scattered across the field of view, with some appearing in small groups.

Outbreak Amid War

**How the First World War Enabled
the 1918 Influenza Pandemic**

This negative stained transmission electron microscopic image showed recreated 1918 influenza virions that were collected from the supernatant of a 1918-infected Madin-Darby Canine Kidney (MDCK) cell culture, 18 hours after infection. In order to sequester these virions, the MDCK cells were spun down, in a process known as centrifugation, and the 1918 virus present in the fluid was immediately fixed for negative staining.

CENTERS FOR DISEASE CONTROL
AND PREVENTION

By Capt. VANESSA M. MUNIZ-MEDINA, CAP

The influenza pandemic (flu pandemic) of 1918 took the lives of approximately 50 million people worldwide.¹ Some epidemiologists estimate as many as 100 million people died of influenza worldwide in just 24 weeks during 1918-19. To give some perspective, the 1918 flu pandemic killed more people than the fourteenth-century plague and more people than the ongoing AIDS pandemic.² It surpassed in mortality and morbidity the previous 1889 pandemic, and the following 1957 and 1968 influenza pandemics.³ In 1918-19 an estimated five hundred million people were infected with the influenza virus with several degrees of symptoms.⁴ Some patients had mild flu symptoms, other patients presented with disturbingly violent symptoms. Bleeding from their eyes, ears and nose, headache, cough, body aches, high fever, a few showed digestive symptoms and a blue tinge in their skin.⁵ That bluish skin color, known as heliotrope-cyanosis, became prominent in the disease. Heliotrope-cyanosis served to track down influenza outbreaks from 1915 to 1917 by medical researcher and virologist John S. Oxford.⁶

Like a tsunami, the 1918 pandemic came in three distinct waves, although some historians suggest it came in four waves.⁷ The First World War (WWI) was in its fourth year, and the United States had entered the conflict a year before. Because of this, American troops moved to and from the U.S. and Europe regularly. In the U.S., the first influenza wave arrived in the spring of 1918, caused mild symptoms, and Americans thought of it as a regular, expected flu season and gave it little attention. However, the disease got people's attention when it reached the Western Front's battlefield in the late Spring and

early summer of 1918.⁸ Then, the virus became extremely virulent at the beginning of the summer, raising a devastating second wave in late August. The second wave launched a simultaneous attack on three continents and killed millions throughout October and November 1918.⁹ Morbidity rates during the second wave ranged between 25 and 40 percent in the U.S.¹⁰ While people were still recovering from the second wave havoc, a milder third wave rolled in during the beginning of 1919. A fourth and final wave appeared during the first months of 1920.¹¹

An estimated 675,000 Americans lost their lives during the 1918 pandemic. Many Americans had lived through the 1890 pandemic and also experienced seasonal influenza. They knew that children and older adults were the usual targets of this killer. The Americans and the entire world were perplexed with the 1918 influenza newest target, young adults. A horrifying 99 percent of deaths occurred in people between 20 and 40 years of age. Defying the previously known "U" death chart pattern (indicating the high incidents of deaths among infants and the elderly) of influenza outbreaks and giving the 1918 pandemic a unique W-shaped death chart. The "W" indicated a high incidence of deaths among infants, young adults, and the elderly.¹²

Despite a large number of sick people and the shocking amount of dead, the 1918 pandemic has been largely ignored by historians until the 1970s. Historian Mark O. Humphries, in "The Last Plague: Spanish Influenza and the Politics of Public Health in Canada," referred to Alfred Crosby, among others, about the subject. Humphries wrote that Alfred Crosby in "Epidemic and Peace, 1918: America's Deadliest Influenza Epidemic," argued that "historical neglect had hidden the ►

1. Michael Worobey, Jim Cox, and Douglas Gill. "The Origins of the Great Pandemic." *Evolution, Medicine, and Public Health* 2019, no. 1 (2019): 18.
2. John M. Barry, *The Great Influenza: The Story of the Deadliest Pandemic in History*, (New York: Penguin Books, 2018), 4 - 5.
3. J.S. Oxford et al. "World War I May Have Allowed the Emergence of 'Spanish' Influenza." *The Lancet. Infectious Diseases* 2, no. 2 (2002): 111.
4. Jeffery K. Taubenberger, and David M. Morens. "1918 Influenza: The Mother of All Pandemics." *Emerging Infectious Diseases* 12, no. 1 (January 2006): 15.
5. Barry, *The Great Influenza*, 2.
6. Oxford et al. "the Emergence of 'Spanish' Influenza," 111.
7. Nancy K. Bristow, *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic*. (Oxford: Oxford University Press, 2012), 3.
8. Bristow, *American Pandemic*, 3.
9. Bristow, *American Pandemic*, 3.; Anton Erkoreka, "Origins of the Spanish Influenza Pandemic (1918-1920) and Its Relation to the First World War." *Journal of Molecular and Genetic Medicine: An International Journal of Biomedical Research* 3, no. 2 (2009): 190.
10. Bristow, *American Pandemic*, 4 - 5.
11. Bristow, *American Pandemic*, 3.; Erkoreka, "Origins of the Spanish Influenza Pandemic (1918-1920), 190.
12. Bristow, *American Pandemic*, 3.

pandemic's political effects on the war and the Paris Peace Conference."¹³ Nonetheless, historians were not the only ones who neglected the 1918 Pandemic Influenza's history almost to the point of forgetting altogether. Irish historian Ida Milne wrote in her book "Stacking the Coffins: Influenza, War and Revolution in Ireland," that in Ireland, just like in Europe, the war took hold of newspapers and people's minds. Milne wrote, "Forgetting the Flu was not an Irish phenomenon; it was a universal one."¹⁴

This historiographic essay explores the role played by WWI in spreading the virus around the world, the armed forces' reactions towards the sickness, and assesses whether the military could have done more to stop the spread of deadly influenza. The origins of the 1918 pandemic are debatable; however, narrowing down the origin of the 1918 pandemic will help to identify the role of the war (if any) in spreading the disease around the world. Using historical and scientific peer-reviewed articles and history books on the subject can help establish a timeline of the disease and pinpoint possible origins of the pandemic. The essay explores evidence suggesting viral activity as early as 1915 and evaluates the evidence indicating that the movement of troops worldwide during the Great War enabled the spread of the virus that caused the pandemic.¹⁵

Origin of the Pandemic Flu and the War

Novel forms of influenza usually originate in Asia and move westwards. The 1918 influenza virus did not follow that expectation. During the Great War, the countries involved in the conflict censored the press. Their governments forbade the publication of antipatriotic or demoralizing material. Spain, a non-belligerent country, had a free press and, in May 1918, reported the illness of King Alfonso XIII, the prime minister, several cabinet members, and several thousand citizens of Madrid in May 1918. Spain's reports helped to create the myth that the disease originated in Spain, and gave rise to the

name "Spanish Flu."¹⁶ Identifying the exact origin of the 1918 pandemic, and studying how the virus traveled from country to country will elucidate if (and how) WWI played a role in spreading the virus.

In 2001, virologist John Oxford published "The So-Called Great Spanish Influenza Pandemic of 1918 May Have Originated in France in 1916." He examined evidence that suggested the 1918 virus that caused the pandemic, moved from Europe to China, and not the other way around as previously proposed by other investigators. Oxford and his team observed that people from several countries, expanding various continents, died of influenza from September to November 1918. This rapid spreading of the virus in such a short period suggested to Oxford that the disease "seeding" had occurred earlier. Oxford and his team studied the incidence of respiratory disease that also showed heliotrope-cyanosis (a feature characteristic of the 1918 influenza) to corroborate his thesis. The study covered data from Germany, England, and France during the winters of 1916 to 1918. The investigation identified early outbreaks during the winter of 1916 in two British Army camps, one at Etaples, France, and the second one based at Aldershot, England. These two outbreaks occurred two years before the 1918 pandemic. Oxford suggested that the lack of air travel and the restrictions on traveling due to the Great War explained the long-term emergence (2 years) of the pandemic. Oxford argued that troops' demobilization at the end of the war created the best conditions for spreading the virus. These conditions included soldiers infecting each other while traveling long distances on their way back home. Oxford and his team argued that the 1918 pandemic virus originated in France.¹⁷

In his 2002 historical review article "World War I May Have Allowed the Emergence of 'Spanish' Influenza," Oxford published his findings from epidemiological and mortality evidence of early outbreaks of respiratory disease in France and the U.K. in the years 1915 and 1917. The evidence supported his previous 2001 research, and he confidently ►

13. Mark Osborne Humphries, *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada*. (Toronto: University of Toronto Press, 2013), 4.
14. Ida Milne, *Stacking the Coffins: Influenza, War and Revolution in Ireland, 1918-19*. (Manchester: Manchester University Press, 2018), 5.
15. Worobey et al. "The Origins," 19.
16. Milne, *Stacking the Coffins*, 124.
17. J. S. Oxford, "The So-Called Great Spanish Influenza Pandemic of 1918 May Have Originated in France in 1916." *Philosophical Transactions: Biological Sciences* 356, no. 1416 (2001): 1857-59.

added that the pandemic did not originate in Spain. In this publication, he suggested that while the seeding of the virus occurred in earlier years, the 1918 pandemic had originated in the Western Front. He explained that the critical factors that caused the virus to become a highly virulent strain that resulted in the pandemic were present on the Western Front. These factors included the contamination of the environment by respiratory irritants such as chlorine and phosgene, population stress and malnutrition, and overcrowding that led to rapid person-to-person virus transmission. These circumstances created the perfect environment for the virus to evolve into its highly contagious and deadly pandemic form.¹⁸

Oxford reiterated his thesis and proposed a new hypothesis in a 2004 publication, "A Hypothesis: The Conjunction of Soldiers, Gas, Pigs, Ducks, Geese, and Horses in Northern France during the Great War Provided the Conditions for the Emergence of the 'Spanish' Influenza Pandemic of 1918-1919." He published the analysis of pathology reports from 1918-1919. Oxford used molecular biology and viral sequence analysis to support his proposal that the mixture of overcrowding, 24 types of gas, and the presence of pigs, ducks, geese, and horses in northern France during the Great War provided the conditions for the emergence of the 1918 pandemic. The evidence supported that the virus originated in France, and it also supported that the conditions at the British Army camp at Etaples in France, favored the emergence of a virus capable of prompting a pandemic. Oxford concluded that the final trigger was the demobilization of millions of soldiers at the end of the war and contributed to the rapid spread of the disease worldwide.¹⁹

American historian John M. Barry published a new theory of the 1918 pandemic origin in 2004. Barry researched and wrote about the 1918 Influenza Pandemic in his book "The Great Influenza: The Story of the Deadliest Pandemic in History." He became an expert on the matter. In 1997, the emergence of the H5N1 avian influenza triggered a possible pandemic alarm around the globe.

Large companies and governments began to plan for such a scenario. Supply chains, continuity plans, scientific research, vaccine production, and stockpiling certain drugs were all part of the preparation plans. Also, the U.S. government called on public health officials, and other experts to develop policies to lessen the impact of a pandemic using non-pharmaceutical interventions (NPIs) based on analysis of the 1918 pandemic. Barry answered the call to join in the effort to devise NPIs and other experts in history, laboratory science, mathematical modeling, and politics. In this effort, he collaborated with the National Academy of Sciences, national security entities, state and federal agencies, think tanks, and officials from the Bush and the Obama administrations.²⁰

In "The Great Influenza," Barry argued that the virus that caused the 1918 pandemic originated in Haskell County, Kansas, in late January and early February 1918. Based on epidemiological evidence, Barry further suggested that the virus traveled to the Camp Funston Army base in Kansas, possibly with a recruit, and on to Europe. Later in the year, the virus moved through North America, Europe, South America, Asia, Africa, the Pacific, and the rest of the world.²¹

Using primary and secondary sources to support his thesis, Barry established two crucial timelines, the development of American medical research, and a revolution in the U.S. medical field pushed by newly developed medical research, and the first documented cases in the U.S. concerning the 1918 pandemic. These timelines allow the reader to understand the medical background of the physicians and researchers involved in the battle against the 1918 influenza. These timelines also explained how the U.S. medical field's shortcomings allowed the spread of the virus in North America, Europe, and around the world. Barry contended that the influenza pandemic that erupted in 1918 was the first substantial collision between nature and modern science.²² The 2018 revised version of Barry's book included an edited afterword. ►

18. Oxford et al., "World War I May Have Allowed the Emergence of 'Spanish' Influenza," 111-14.

19. Oxford J.S., Lambkin R., Sefton A., Daniels R, Elliot A., Brown R., and Gill D. "A Hypothesis: The Conjunction of Soldiers, Gas, Pigs, Ducks, Geese and Horses in Northern France during the Great War Provided the Conditions for the Emergence of the 'Spanish' Influenza Pandemic of 1918-1919." *Vaccine* 23, no. 7 (2005): 940-45.

20. Barry, *The Great Influenza*, 449 - 451.

21. Barry, *The Great Influenza*, 92 - 93.

22. Barry, *The Great Influenza*, 5.

In his afterword, he acknowledges the theories from other investigators stating that the pandemic virus circulated in humans several years before 1918. Barry conceded that his Kansas theory could not work if the virus circulated before 1918.

New Zealand historian Geoffrey Rice gave a different perspective to the origin of the 1918 pandemic in his 2005 book "Black November: The 1918 Influenza Pandemic in New Zealand." In this case, the author did not connect the First World War in a direct form with the arrival of influenza to New Zealand. Rice, alongside medical history academic Linda Bryder, scrutinized the death certificates of all the New Zealand victims of the 1918 pandemic, among other evidence. In New Zealand, many believed the virus came aboard the *Niagara*, a civilian ship that docked in Auckland on Oct. 12, 1918, without quarantine. The night before docking, a crewman died of pneumonia. However, the *Niagara* brought home the Prime Minister from a war conference. The ship was allowed to dock, and people disembarked, some were even sick enough that they had to go straight to the hospital. Rice argued that the evidence strongly suggested that the origin of the disease in New Zealand pointed to Auckland. Nonetheless, the quick spread north to south challenged that notion. He also mentioned that at the end of the war, the soldiers came back home to find family members who had perished during the pandemic. The author blamed most of the spread of the celebrations in towns after the Armistice. Rice did not conclude a specific origin and did not blame the Western Front for the 1918 pandemic as other historians (later discussed in this essay), and scientists like Oxford did.²³

In 2006, Jeffery K. Taubenberger and David M. Morens published an article titled "1918 Influenza: The Mother of All Pandemics." Taubenberger, a scientist from the Armed Forces Institute of Pathology, and Morens, a scientist from the National Institutes of Health, worked together on the 1918 flu virus. Using molecular biology techniques, Taubenberger reconstructed the genomes of the 1918 influenza virus from lung samples obtained from soldiers who died during

the pandemic. Their extensive research concluded that both the historical and the epidemiological data were inadequate to identify the origins of the virus. Furthermore, phylogenetic analysis of the 1918 viral genome did not place the virus in any geographic context. The authors claimed that "herald" events from 1915, 1916, and early 1918, if they happened, were challenging to identify. Taubenberger and Morens contended that the scientific data supported the theory that the precursor of the virus was not in circulation until shortly before 1918. The data also suggested that the virus did not jump directly from birds. They concluded that the origins of the virus that caused the 1918 Pandemic remained perplexing.²⁴

In 2009, Basque historian of medicine Anton Erkoreka published his article "Origins of the Spanish Influenza Pandemic (1918-1920) and Its Relation to the First World War." Erkoreka examined the reports of medical doctors who attended the French and American troops during the Great War. He also researched a variety of archives in France, Spain, and Portugal and studied the several 1918 Influenza Pandemic origins theories published at the time. The theories included the Oxford et al., 1916-17 Etaples origin theory, previously discussed in this essay. The Pneumonie de Annamites 1916-18 theory pointed to periodic epidemics of Indochinese soldiers from the old Annam kingdom that fought on France between 1916 and 1918. The New York February 1918 theory claimed that the influenza epidemic began in February 1918 in the United States, in the Sing-Sing prison in New York. The Camp Funston, Kansas, theory, proposed by Barry in 2004 (also discussed previously in this essay). The Villers-sur-Coudun April 1918 theory states that the first cases of influenza appeared in the French Army and later in the American and British armies stationed in French soil. It also stated cases of influenza in the German Army at the Western Front. Erkoreka also studied other theories of origin from Madrid, the French-Spanish border, and Asian origin. He concluded that the origins of the pandemic had a link with the soldiers who fought during ►

23. Geoffrey Rice and Linda Bryder. *Black November: The 1918 Influenza Pandemic in New Zealand* Second edition revised and enlarged, (Christchurch, N.Z.: Canterbury University Press, 2005), 17 - 19.

24. Jeffery K. Taubenberger and David M. Morens. "1918 Influenza: The Mother of All Pandemics." *Emerging Infectious Diseases* 12, no. 1 (January 2006): 15-22.

WWI. Erkoreka contended that the military camps and the trenches were the places where the virus developed and from where it spread. He concluded that the conditions that existed at the Western Front increased flu virus virulence, and that we may never see a pandemic at the scale of the 1918 pandemic without these conditions.²⁵

G. Dennis Shanks, a scientific researcher from the Australian Army Malaria Institute, the School of Population Health, University of Queensland, and the Queensland Institute for Medical Research, Brisbane Australia, published his findings in 2012. Shanks et al., in the article “Relationship between ‘Purulent Bronchitis’ in Military Populations in Europe Prior to 1918 and the 1918-1919 Influenza Pandemic,” studied mortality records of purulent bronchitis and 1918 influenza virus genomic data. The researchers found that a purulent bronchitis localized outbreak correlated with a lethal respiratory illness in 1916-17. The authors argued that the purulent bronchitis deaths in the Australian Army pointed to an epidemic wave that moved from France to England. The genomic data supported Shanks’ hypothesis and suggested circulation of the pandemic influenza H1N1 of 1918-19 in some mammalian host(s) for several years before the pandemic. Shanks and his team concluded that the purulent bronchitis was a probable symptom of infection with the novel influenza virus, the likely precursor of the 1918 pandemic virus strain.²⁶

Researchers Peter C. Wever, from the Department of Medical Microbiology and Infection Control at the Jeroen Bosch Hospital in the Netherlands, and Leo van Bergen, from the Royal Netherlands Institute of South Asian and Caribbean Studies, published an article in 2014. In “Death from 1918 Pandemic Influenza during the First World War: A Perspective from Personal and Anecdotal Evidence,” they discussed their analysis of primary sources and mortality data among WWI soldiers from the U.S., Germany, the U.K., and France. Wever and van Bergen agreed with other scholars that

the influenza pandemic’s origin had a connection with the soldiers that occupied the camps and the trenches of the Great War.²⁷

In 2018 social historian Ida Milne published the book “Stacking the Coffins: Influenza, War and Revolution in Ireland, 1918-19.” Milne studied the 1918 pandemic from the Irish experience and perspective. In her book, she discussed (among other things) other scientific researchers and flu historians, including Barry, Oxford, Rice, and Taubenberger. Milne agreed with Oxford’s origin theory and with the general theory that the war played a crucial role in the evolution and spreading of pandemic influenza. Milne argued that “The reluctance of some twentieth and twentieth-first-century authorities to accept Oxford’s locus of origin in the European arena of war is surprising.” Milne based her acceptance of Oxford’s theory on the newspaper’s accounts from the era in Ireland, the oral histories and textbooks written in the immediate aftermath. These publications accepted the Western Front as the origin of the pandemic.²⁸

Scientific researchers Michael Worobey, Jim Cox, and Douglas Gill published “The Origins of the Great Pandemic.” Their collaboration published in 2019, scrutinized competing hypotheses on the timing and geographical origin of the 1918 pandemic. The hypotheses were: Barry’s Kansas origin; Oxford’s origin in the British encampments of Etaples (northern France) and Aldershot (south of England); and a possible Chinese origin. The authors also looked into an influenza outbreak in New York City in 1917-18 with a “W” mortality curve, similar to the 1918 pandemic. They provided new historical insights regarding the nature of putative pre-1918 influenza activity. Utilizing phylogenetic methods, Worobey and colleagues uncovered reasonable evidence indicating that most of the avian-like viral genomic segments in the 1918 human virus had a possible Western Hemisphere and probably North American origin. Their studies suggested that the virus reassortment event that created the ►

25. Anton Erkoreka, “Origins of the Spanish Influenza Pandemic (1918-1920) and Its Relation to the First World War.” *Journal of Molecular and Genetic Medicine: An International Journal of Biomedical Research* 3, no. 2 (2009): 190-94.

26. Shanks, G.D., Mackenzie A, Waller M, and Brundage J.F. “Relationship between ‘Purulent Bronchitis’ in Military Populations in Europe Prior to 1918 and the 1918-1919 Influenza Pandemic.” *Influenza and Other Respiratory Viruses* 6, no. 4 (2012): 235-39.

27. Peter C. Wever, and Leo van Bergen. “Death from 1918 Pandemic Influenza during the First World War: A Perspective from Personal and Anecdotal Evidence.” *Influenza and Other Respiratory Viruses* 8, no. 5 (2014): 538 - 47.

28. Ida Milne, *Stacking the Coffins: Influenza, War and Revolution in Ireland, 1918-19.* (Manchester: Manchester University Press, 2018) 10 – 12, 125.

pandemic strain occurred in or around 1915, long before the Kansas cases. The authors considered the influenza activity in 1915 in the U.S. to be related to the 1918 influenza virus.²⁹

In this section of the historiography essay, the objective was to identify the possible geographical origin of the 1918 Flu Pandemic. The premise was that to trace the virus's travel routes and the war's role in spreading the virus, the identification of the virus's origins was crucial. The essay identified several theories about the 1918 Pandemic Flu origin. However, the most plausible theories based on historical accounts, epidemiology, molecular biology, and phylogenetic methods pointed at two particular theories as top contestants for the origin. The first theory, proposed by Barry, stated that the virus originated in the U.S. at the U.S. Camp Funston, an Army induction center in Kansas. The second theory, proposed by Oxford, stated that the virus originated in the troop camps of Etaples and Aldershot (northern France and southern England, respectively). Milne pointed out that Oxford found a connection between the Etaples and the U.S. origin theory. Oxford had suggested that American troops brought an earlier version of the virus to the U.S. from the Western Front.³⁰ Milne's observation about Oxford's connection made its origin theory plausible. Oxford's connection also acknowledged the earlier flu cases seen in the U.S. Nonetheless, whether the origin was in France or the U.S., most scientists and historians referenced in this essay agree that the 1918 Pandemic Influenza and the Great War were inextricably connected. The war provided the conditions that exacerbated the flu virus's virulence, mortality, and capacity to travel the world in a short period.

Armed Forces reactions towards the sickness

The previous section established that the war played a crucial role in the evolution and spread of the virus. In this section, the essay will investigate the combatants' reactions towards the virus. In *The Great Influenza*, Barry wrote that as soon as the

U.S. military detected an outbreak of a "mysterious illness," military medical doctors and scientists were called to work on the phenomenon. The U.S. military wanted to investigate the cause of the illness, contain it, and promptly develop a vaccine or a cure.³¹ The U.S. Army issued orders forbidding men from crowding around stoves, a practice identified as a way to spread the disease quickly.³²

In her book *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic*, American historian Nancy K. Bristow wrote about some of the legacies of the war itself that helped to mitigate the 1918 Flu Pandemic. As the American nation prepared to recruit soldiers through a draft, public health officials came across a civilian public health crisis. One man in three did not meet the qualifications for military service due to poor health. This health crisis presented a challenge that both public health officials and military medical officers took seriously. The military made a great effort to build up a healthy army, and public health officials did the same to improve civilians' health as they were essential in the war's home front. In a year, the public health arena made significant advances. Bristow assessed that just before the 1918 pandemic, American scientists, physicians, and health experts were so confident they thought of plagues and epidemics as "things of the past." Despite the advances in medicine and science, resistance to following medical advice became an issue.³³

In "The Eighteen of 1918-1919: Black Nurses and the Great Flu Pandemic in the United States," author Marian Moser Jones, and Matilda Saines wrote about one of the most despicable actions taken by the U.S. military. In their article, they describe the bravery of nurses in the U.S. In this case, Black nurses, despite the pervasive segregation and violence against the African-American community, ran into the Army, the Navy, and Red Cross recruiting offices to offer their expertise in nursing. Nonetheless, even during a time when nurses were desperately needed, neither the Army nor the Navy wanted to recruit Black nurses to aid the troops. Eventually, after the Armistice, 18 Black nurses were ►

29. Worobey et al., "The Origins," 18–25.

30. Ida Milne, *Stacking the Coffins*, 125.

31. Barry, *The Great Influenza*, 1 – 3, 7.

32. Barry, *The Great Influenza*, 149.

33. Bristow, *American Pandemic*, 34 - 36.

allowed to serve in the Army Nurse Corps, but 3,000 trained Black nurses were denied entrance.³⁴

In “The Spanish Influenza Pandemic: A Lesson from History 100 Years After 1918,” historian M. Martini and his team wrote about the prevention methods taken in Europe in August 1918. These measures included obligatory notification of suspected cases and surveillance of communities, imposed quarantine, and self-isolation.³⁵

In his book, “American historian Ken Robison, *Montanans in the Great War: Open Warfare Over There*” wrote about the war from the perspective of Montana residents. He also wrote about the effects of the 1918 pandemic in the U.S. Army. Robison noted that in October 1918, the War Department adopted a policy of not sending any man overseas that showed any flu symptoms or that had exposure to the disease. He wrote that the U.S. Navy wanted to identify the causing agent, the mode of transmission, and how to prevent it. In a curious note, Robison claimed that influenza was one of the reasons the Germans retreated from the battlefield at the Meuse-Argonne battle.³⁶

In “Fighting Flu: Military Pathology, Vaccines, and the Conflicted Identity of the 1918-19 Pandemic in Britain,” medical historian Michael Bresalier explored the decisive role of British military medicine in shaping the approaches taken by officials during the 1918 pandemic. The author traces the British military’s efforts to establish the etiology of the pandemic and develop a flu vaccine.³⁷

Lack of adherence to the medical recommendations presented a problem in the fight to contain the disease. Barry noted that the U.S. Army often violated regulations written to keep the soldiers healthy. Short supplies of clothing and bedding, overcrowding, and inadequate heating forced

men to gather around heat sources, creating the perfect environment for spreading the disease.³⁸ Milne noted that 40 percent of the U.S. Navy got sick with the flu. Navy ships were overcrowded, and men lived in close quarters. The ships were a notorious hunting ground for the flu virus. Despite repeated requests by the U.S. naval medical staff to address the Navy ship’s issues, no effort came from the Navy leadership until October 1918. Despite Germany’s best efforts, influenza killed twice more men in the U.S. Navy than Germans did; however, U.S. Navy personnel had a lower fatality rate than the troopships they accompanied through the Atlantic. The troopships had a fatality rate four times higher than the navy’s ships. On the Western Front, the 88th American division fought on the front lines from Oct. 26 until Nov. 11. The division lost four hundred and forty-four men to influenza, and only had ninety men killed in combat. In spite of these losses, the U.S. military barely acknowledged the disease in public.³⁹

Barry wrote about censorship in the U.S., and the U.K. The Allies forbade negative and demoralizing publications. In the U.S., it became illegal to speak against the government. Censorship included publishing articles and news about the death toll exacted by influenza, which was considered demoralizing to the troops.⁴⁰ Martini noted that health authorities refused to reveal information about those affected by influenza in Europe.⁴¹ Bresalier pointed out that the British military officials wanted to conceal the disease and that censorship delayed reports of the epidemic and contributed to the popular notion that the disease originated in Spain.⁴²

This section of the essay examined the reactions towards the disease by the military. Many of the actions by the U.S. and British military ►

34. Marian M. Jones and Matilda Saines, “The Eighteen of 1918-1919: Black Nurses and the Great Flu Pandemic in the United States.” *American Journal of Public Health* 109, no. 6 (2019): 877–84.

35. M. Martini et al., “The Spanish Influenza Pandemic: A Lesson from History 100 Years After 1918.” *Journal of Preventive Medicine and Hygiene* 60, no. 1 (2019): 67.

36. Ken Robison, *Montanans in the Great War: Open Warfare Over There*. (Chicago: Arcadia Publishing Inc., 2019), 200 - 211.

37. Michael Bresalier, “Fighting Flu: Military Pathology, Vaccines, and the Conflicted Identity of the 1918–19 Pandemic in Britain.” *Journal of the History of Medicine and Allied Sciences* 68, no. 1 (2013): 87–128.

38. Barry, *The Great Influenza*, (2018), 95 - 97.

39. Milne, *Stacking the Coffins*, 9 - 10.

40. Barry, *The Great Influenza*, 124 - 126.

41. M. Martini et al., “The Spanish Influenza Pandemic,” 67.

42. Bresalier, “Fighting Flu,” 103.

were positive, intended to identify the virus, stop it, and cure it. Both the U.S. and the U.K. understood that the health of the general public was essential to keep the troops healthy and to support the war effort. Unfortunately, not all actions were positive. In the U.S., racism hindered the effort of Black nurses to care for sick soldiers. Also, some ignored preventive measures assuring the rapid spread of the virus. Last but not least is censorship, a measure adopted by both the Allies and Germany that most likely hindered efforts to take more effective actions against the virus.

Could the military have done more to stop the spread of deadly influenza?

Barry contended that during wartime, the overwhelming majority of U.S. Army bases could not enforce quarantine tightly enough. Forty-three American scientists anticipated that an epidemic would erupt during the Great War. Barry concluded that the American medical system and scientists prepared for an epidemic as much as they possibly could.⁴³ In “How World War I Changed Global Attitudes to War and Infectious Diseases,” Shanks reviewed the military medical actions geared towards preventing and managing infectious diseases. He stated that the 1918 pandemic exemplified an infectious disease case to which science and medicine had no answer. The author concluded that “what the medical officers of WWI were able to achieve with few resources other than their ability to think should command respect.”⁴⁴

Could the military have done more to stop the spread of influenza? In short, it appears that given the circumstances, they did everything they could to stop the spread of influenza. They made some

mistakes, but they also made a commendable effort, given the gravity and the magnitude of the 1918 pandemic.

Conclusion

This historiography essay presented definite evidence that the war provided the conditions that exacerbated the flu virulence, mortality, and capacity to travel the world in a short period. The essay examined reactions towards the disease from the part of the U.S. and the British military. Many of these actions were positive, intended to stop the virus from spreading within the troops and civilians alike. However, not all actions were positive. In the U.S., racism hindered the efforts of African-American nurses to serve their nation. Also, preventive measures were ignored in some instances, assuring the spread of the virus. Last but not least, censorship, a measure adopted by both the Allies and Germany, most likely obstructed the efforts of taking more effective actions against the virus and hid the impact the disease had on the war. To this day, it remains unclear if the 1918 influenza outbreak in the European trenches impacted the outcome of the First World War.⁴⁵ It is important to note that censorship not only affected those working to stop influenza back in 1918, but it also is a gift that keeps on giving, as today we are still trying to understand the 1918 virus and their censorship still hinders our efforts to study and understand the 1918 pandemic. Could the military have done more to stop the spread of influenza? The military and medical officers made some mistakes (as noted before), but they also made a commendable effort given the gravity and the magnitude of the 1918 pandemic. ▲

43. Barry, 6.

44. G.D. Shanks, “How World War I Changed Global Attitudes to War and Infectious Diseases.” *The Lancet* 384, no. 9955 (2014): 1705.

45. Wever, and van Bergen. “Death from 1918 Pandemic Influenza,” 538.



Aviators as soldiers during flu outbreak

The 1918 pandemic's impact on the U.S. Army Air Service

AIR SERVICE, UNITED STATES ARMY.

TELEGRAM

OFFICIAL BUSINESS

Squadron "F"
 Wilbur Wright Field, Fairfield, Ohio.
 October 16, 1918.

SEND TO Adjutant General of the Army
 Washington, D.C.

Report death of Winfred H. Harrold, Private ten fifty
 eight two five seven Squadron "F" Wilbur Wright Field
 Fairfield Ohio six five a m October sixteenth of
 Lobar Pneumonia complication influenza

In line of duty Yes Misconduct No

B. H. Burwood

Telegram from squadron official, Wilbur Wright Field, near Riverside, Ohio, to Adjutant General, Washington, D.C., regarding death of Pvt. Wilfred H. Harrold, Oct. 16, 1918. PHOTO ON PRECEDING PAGE: To protect against influenza, soldiers gargle with salt and water after a day working in the War Garden at Camp Dix, N.J.

By Capt. VANESSA M. MUNIZ-MEDINA, CAP

This section intended to assess the 1918 influenza pandemic's impact on the U.S. Army Air Service (USAAS) during the First World War. At this time however, historiographic evidence supporting how the flu affected the USAAS specifically has not been presented. Nonetheless, it is possible to analyze existing historiography to make connections that give us a glimpse of the situation within the USAAS in 1918-19.

In her 1999 book, *Training to Fly: Military Flight Training in 1907-1945*, author Rebecca Hancock Cameron wrote about the history of flight training preceding the creation of the U.S. Air Force. During the Great War, aviation candidates took preflight training. After successful completion,

flight cadets were sent to Camp John Dick Aviation Concentration Center (Camp Dick), located at the Texas State Fairgrounds in Dallas. Once at Camp Dick, the cadets were processed and placed in groups for their primary flight training.¹

The influenza virus reached Camp Dick, and on Sept. 27, 1918, *The Dallas Morning News* published that "new men arriving will be placed in quarantine" as a measure to control the spread of the virus.²

The influenza virus spread quickly in military camps where men shared close quarters. The U.S. Army implemented measures to combat influenza; however, many soldiers perished due to the virus and its complications.

Notification of deaths, like the one pictured above of the death of an army private, was one of the thousands sent from military bases to families ►

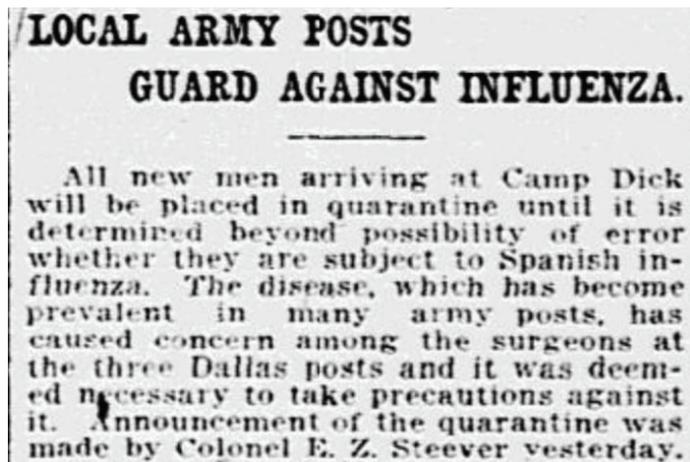
1. Rebecca Hancock Cameron. *Training to Fly: Military Flight Training, 1907-1945*. (Washington, D.C.: Air Force History and Museums Programs, 1999)

2. David Tarrant, "100 years ago, the Deadliest Flu of All Time Devastated Dallas as it Swept Through the World," *The Dallas Morning News*, (January 12, 2018) <https://www.dallasnews.com/news/2018/01/12/100-years-ago-the-deadliest-flu-of-all-time-devastated-dallas-as-it-swept-through-the-world/>

and other government officials.³ This notification, in particular, shows that the USAAS aviators were also affected by the 1918 influenza pandemic.

The fact that little evidence specific to the USAAS can be found does not indicate that the aviators at the USAAS fared any better or worse than the men in the other military services. It is possible then since they were part of the U.S. Army, their statistics and accounts are concealed within the Army's data. It is necessary to note, however, that other historians were able to find data on the U.S. Navy and U.S. Army. One such example was Irish historian Ida Milne. Milne noted that 40 percent of the U.S. Navy got sick with the flu. Men lived in close quarters on overcrowded Navy ships. The ships were a notorious hunting ground for the flu virus. Milne also noted that Navy personnel had a lower fatality rate than the troopships they accompanied through the Atlantic. The troopships had a fatality rate four times higher than the Navy's ships. On the Western Front, the 88th American division fought on the front lines from Oct. 26 until Nov. 11. The division lost 444 men to influenza, and only had 90 men killed in combat. Milne also noted that despite tremendous losses, the U.S. military barely acknowledged the disease in public.⁴ This may be a reason why data on U.S. Army training camps, like Camp Dick, located on American soil, is so difficult to find. Other authors mentioned in the preceding historiography essay, like Barry, Oxford, Rice, and Taubenberger, potentially missed data related to the USAAS, because their focus was on finding the origins of the disease. If there were no signs of disease earlier than 1918 in aviation training camps, the previously mentioned authors did not write about it.

It is noteworthy that even though Camp Dick was an aviation training camp, historians may not have written about the USAAS as a separate identity from the U.S. Army. In her 2018 article, "Flashback to October 12, 1918: Dallas Mayor Lawther Bans All Public Gatherings in Effort to Slow Spread of



DAVID TARRANT, "100 YEARS AGO, THE DEADLIEST FLU," (JANUARY 12, 2018)
This story ran in *The Dallas Morning News* Sept. 27, 1918.

"Spanish" Flu" published on the City of Dallas Office of Historic Preservation website, interdisciplinary historian Jennifer Anderson does not refer to the men stationed at Camp Dick as aviators or pilots. The author referred to the men stationed at Camp Dick as soldiers.⁵

"Officials at Camp Dick and other military training camps in Texas all began reporting spikes in flu cases during the summer of 1918. Forty-five tents were erected at St. Paul's Hospital in Dallas to care for a large number of sick soldiers from Camp Dick, and Army officials imposed a quarantine for newly arriving soldiers."⁶

Anderson's publication supports the idea that because the USAAS was part of the U.S. Army, their specific data was integrated with the U.S. Army and not recorded individually. Thus, understanding how much the flu affected, specifically, the USAAS may prove a challenge. Given the prevalence of influenza infections in U.S. military camps, and evidence presented here, one can argue that USAAS were also affected.

Nonetheless, we may never know the extent of the 1918 pandemic's impact on the USAAS as a separate entity from the U.S. Army. Further research is needed. ▲

3. M. Burwood, Telegram from squadron official, Wilbur Wright Field, Fairfield, Ohio, to Adjutant General, Washington, D.C., regarding death of a private, October 16, 1918. National Archives at Chicago, Record Group 18, <https://www.archives.gov/exhibits/influenza-epidemic/records-list.html>

4. Ida Milne, *Stacking the Coffins: Influenza, War and Revolution in Ireland, 1918-19*. (Manchester: Manchester University Press, 2018), 9 - 10.

5. Jennifer Anderson, *Flashback to Oct 12, 1918: Dallas Mayor Lawther Bans All Public Gatherings in Effort to Slow Spread of "Spanish" Flu*, City of Dallas Office of Historic Preservation (October 12, 2018), <https://cityofdallaspreservation.wordpress.com/tag/camp-dick/>

6. Jennifer Anderson, *Flashback to Oct 12, 1918: Dallas Mayor Lawther Bans All Public Gatherings in Effort to Slow Spread of "Spanish" Flu*, City of Dallas Office of Historic Preservation (October 12, 2018), <https://cityofdallaspreservation.wordpress.com/tag/camp-dick/>



Selma Cronan,
left, and Kathleen
Hilbrandt training
for the Powder Puff
Derby, an all-women
transcontinental air
race in 1960.

Flying through the glass ceiling

Capt. Selma Cronan drawn to aviation
early, and to CAP women's leadership

By Maj. MARC R. HENDERSON, CAP



JEWISH WOMEN'S ARCHIVE

Selma Cronan at Avenger Field, Texas, 1944.

“I just like to fly. I had my first airplane ride at the age of 8. My mother used to take me on the \$2 rides. I decided someday I’d learn how to fly. And the thrill has never left me.”

CAPT. SELMA CRONIN, CAP

Selma Kantor Cronan (1913-2002) was a Jewish American aviation pioneer. She earned a pilot certificate in June 1943, the Women’s Airforce Service Pilots inducted her in 1944, and she later earned a commercial flight rating and ground instructor ratings. Cronan was active in the Civil Air Patrol, she made a career as a writer and consultant in aviation education, and she was a leading member of the International Organization of Women Pilots. At a time when gender stereotypes envisioned women as homemakers, Selma Cronan flew through aviation’s proverbial glass ceiling. In her lifetime, she earned numerous awards for flying and promoting women in aviation.

Cronan was drawn to aviation at an early age, “From the time my mother took me on a two dollar airplane ride in Asbury Park, N.J., in the 1920s, I fell in love with flying, and I knew I was going to become a pilot someday.” She fulfilled her wish in 1943 when she learned to solo during World War II as a member of the Women’s Airforce Service Pilots. After her return to New York in 1945, she purchased her first plane.

Reflecting on her time as a WASP, Cronan said,

I was very young and gung-ho. My next flight was all I cared about. Looking back, I realize now there was a lot of discrimination against women. You’d fly into an air base and there was never a ladies’ room. I realize now the subtleties of the whole thing. If there’s anything I’m happy about, it’s that we were the forerunner of what’s taking place insofar as discrimination against women.

Following World War II, Cronan served in CAP for 14 years and attained the rank of captain. As New York Wing’s director of women’s affairs, she organized the first all-women’s squadron and the first girl cadet training squadron.

Cronan thoroughly enjoyed aviation competitions. She flew many long- and short-course races, including three Powder-Puff Derbies, four New England Air Derbies, the Michigan Small Air Race, international air races, five Bahamas Treasure Hunts, and many local contests.

In 1990, Selma attended an international conference of women fliers in Russia. She met with Russian ►

women pilots who served in the Soviet Air Force in World War II. The conference also included a visit to Kiev in the Ukraine, where Selma placed a wreath at the Babi Yar memorial to honor the 60,000 Jews massacred by Germans there. "This experience strengthened my identity as a Jew as nothing had before," she said.

Cronan continued flying into her 80s. "Flying is easy; all you have to do is get the hang of it. I can't think of anything better than taking the controls and soaring into the sky like a bird with the earth down below." She remained active in women's flying associations almost until her death, especially the International Association of Licensed Women Pilots, where she held a variety of committee, board and leadership positions. She was also a member of the National Aeronautical Association, the National Pilots Association, the Aircraft Owners and Pilots Association, the Aviation Writers Association, the Women's International Aeronautical Association, and Wings for Peace in Africa, and an honorary member in the Korean Women's Association of Aeronautics.

Cronan earned many aviation accolades in her lifetime. The International Organization of Licensed Women Pilots awarded Cronan their highest award, the Amelia Earhart Medal, in 1960. The Women's International Association of Aeronautics awarded her the Lady Hay Drummond-Hay Trophy in 1967 for accomplishment in flying, devotion to aviation, and in recognition of prior accomplishments. She was honored by the New Jersey Aviation Hall of Fame in 1994 with the Fred L. Wehran Award for achievement in aviation.

Selma Kantor Cronan was a World War II veteran, a pilot, she was Jewish, and a woman. She did not



JEWISH WOMEN'S ARCHIVE

TOP: Cronan in the cockpit at Miller Field, N.Y., in 1945. BELOW LEFT: Cronan in her CAP uniform, date unknown. BELOW RIGHT: Cronan in Sweetwater, Texas, during WASP training in 1944.



WWII-WOMEN-PILOTS.ORG



JEWISH WOMEN'S ARCHIVE

independently change the course of aviation history, nor did she alter the societal norms of her day, but by her courage, determination, and devotion to aviation she set a precedent for subsequent generations of women in the military and aviation. ▲

1. Jeanne C. Lewis, "Flying is Their Vocation and Avocation," *The Bergen Evening Record*, June 1, 1960, sec. 2, p. 21, www.newspapers.com/image/491424316

2. Jewish Virtual Library of the American-Israeli Cooperative Enterprise. "Selma Cronan, 1919-2002." Accessed May 14, 2020. <https://www.jewishvirtuallibrary.org/selma-cronan>.

3. Staff Writer. "Leonia Aviatrix Competing in Annual Powder Puff Derby." *The Herald-News*, Passaic, N.J., July 10, 1961, News of Bergen County Communities, p. 15 (43). Accessed May 17, 2020. www.newspapers.com/image/527376632/

4. "Leonia Aviatrix Competing in Annual Powder Puff Derby." *The Herald-News*, July 10, 1961.

5. Disabled American Veterans, Chapter 70. "Women Airforce Service Pilots," *The WASP*. Accessed May 19, 2020. <http://davfl70.org/movies/TheWASP.html>.

6. Lewis, "Flying is Their Vocation and Avocation," and Lu Hollander. ed. *The Ninety-Nines: Yesterday - Today - Tomorrow*. (Paducah, Ky.: Turner Publishing Company, 1996), p. 79.

7. Jewish Virtual Library of the American-Israeli Cooperative Enterprise. "Selma Cronan, 1919-2002." Accessed May 14, 2020. <https://www.jewishvirtuallibrary.org/selma-cronan>,

8. Hollander. *The Ninety-Nines: Yesterday - Today - Tomorrow*.

9. Lewis, "Flying Is Their Vocation And Avocation."

Guide to U.S. Air Force Lineage and Honors



The U.S. Air Force Historical Research Agency is the repository for Air Force historical documents. The Agency's collection, begun in Washington, D.C., during World War II, moved in 1949 to Maxwell Air Force Base, Ala., the site of Air University, to provide research facilities for professional military education students, the faculty, visiting scholars, and the general public.

Today, it consists of more than 70 million pages devoted to the history of the service, and the agency represents the world's largest and most valuable organized collection of documents on U.S. military aviation.

More than 90 percent of the agency's pre-1955 holdings are declassified. The agency's collection is also recorded on 16mm microfilm, with microfilm copies deposited at the National Archives and Records Administration and the Air Force Historical Studies Office, Anacostia Naval Annex, Washington, D.C. Its website is www.afhra.af.mil/Home/Welcome/

As a source of ready information for USAF historians, other researchers, and the general public, the Air Force Historical Research Agency publishes organizational records, guides, and pamphlets. One such reference document is the following Guide to U.S. Air Force Lineage and Honors.¹

1. "Guide to United States Air Force Lineage and Honors," Air Force Historical Research Agency (U.S. Air Force), accessed July 1, 2020, www.afhra.af.mil/Information/Organizational-Records/.

A Guide to United States Air Force Lineage and Honors

Introduction

This Guide to United States Air Force (USAF) Lineage and Honors is designed to assist the researcher in understanding unit lineage and honors (L&H). The Guide includes brief histories and explanations for terms such as “Squadron,” “Group,” “Wing,” “Bestowed Honors,” and “Conferred Honors.” It also outlines the history of USAF reorganizations affecting the wing and group structure. In addition, the guide includes a comprehensive list defining terms used within the L&H statement.

Origins of USAF Organizations 1913-1947

The Squadron

The term “squadron” literally means a square (from the Latin *quadrare*, to square). In army application, squadron describes a body of troops drawn into a square or arranged in formal order. For more than four centuries, western armed forces have ordered personnel and equipment in organizations known as squadrons. In navies, a squadron was a group of vessels consisting of two or more divisions of a fleet. For armies, the cavalry squadron was the most common type and it consisted of two or more elements called troops. How air forces came to adopt the squadron is an interesting story.

Early in the 20th century, military doctrine treated air operations as an extension of the cavalry—in effect a sky cavalry. For example, a January 1912 report to the French Chamber of Deputies argued that “the aeroplane should not replace the cavalry, even in reconnaissance work; its action should be auxiliary to that of [the cavalry] and complete it.” Echoing this sentiment in 1913, Brig. Gen. George P. Scriven, Chief Signal Officer of the U.S. Army, testified before Congress “the aeroplane is an adjunct to the cavalry.” Even as late as 1920 a much celebrated U.S. Army Air Service regulation seemed to reflect cavalry connections: “Pilots will not wear spurs while flying!”

When the time came to form tactical aviation organizations, most military planners simply adapted the cavalry squadron organization to their purposes. Like cavalry squadrons, the new aero squadrons were administrative and tactical units, which usually consisted of two or more elements. In England, the Royal Flying Corps formed the first two aero squadrons in May 1912. Other nations quickly followed the British example. The US Army Signal Corps organized the 1st Provisional Aero (now, 1st Reconnaissance) Squadron on 5 March 1913. The widespread adoption of the squadron model prompted Gen Henry H. (Hap) Arnold, Commanding General of the U.S. Army Air Forces in World War II, to observe that it is “the smallest administrative organization practically universally accepted for air units.”

Initially, U.S. aero squadrons consisted of two elements called companies. By the time the United States entered World War I, they contained two or more elements called flights. Through the years, squadrons have varied in size and composition according to specific needs. However, the squadron design still endures and continues to give formal order to US Air Force assets. Air Force Instruction 38-101, “Air Force Organization,” defines the squadron as “the basic unit of the Air Force.” A squadron may be either a functional organization, such as a maintenance, communications, or transportation squadron, or a mission organization such as a flying, space, or missile squadron.

The Group

When the United States entered World War I in April 1917, Gen John J. Pershing, the commander of the American Expeditionary Forces, soon developed a plan for the deployment of more than 200 combat squadrons to France. As these units entered combat, American airmen soon realized that they needed an intermediate organization between the squadrons and the command level. They looked to the British who had more experience in dealing with combat units and were already engaged in flying combat missions. By December 1917, after looking at British groups, the Americans decided to adopt the “group,” making it the smallest self-contained tactical bombardment unit. The Americans had no expectation of bombing by squadron but by ►

groups and perhaps combinations of groups depending on the target. By the end of 1918, the War Department had created one pursuit wing and fourteen service, fighter, bomber, or observation groups in France. After the war the U.S. Army quickly demobilized most of its air arm, including the wing, all of the groups, and most of the squadrons. Almost immediately, however, the Army began to create new organizations for peacetime service, and the concept of the group survived, although in the 1920s and 1930s there were few groups in existence.

In January 1939, President Franklin D. Roosevelt asked Congress to strengthen America's air power, which, the president said, was "utterly inadequate." On 1 September 1939, Germany attacked Poland, beginning the Second World War. In the months that followed, as Axis forces won one victory after another, the Army's air arm expanded rapidly. By the end of 1940 there were 33 groups. Within another year — that is, by the time the Japanese attacked Pearl Harbor and the United States entered the war — the number of active groups had increased to 94. The air arm grew even more rapidly in the months following Pearl Harbor, and by the end of 1943 there were 395 groups. These groups were fighting from Europe to the Mediterranean to the far reaches of the Pacific Ocean and their contribution to winning the war cannot be underestimated. Once the victory had been gained, the United States plunged into demobilization, just as it had done at the end of the First World War. Officers and men went home. Groups inactivated, and once again a new Air Force had to be built. In 1947 the Congress created the Department of the Air Force and established the United States Air Force as a separate service equal to the Army and the Navy.

The Wing

During the Korean War, precipitated by the Communist attack on the Republic of Korea, the number of groups increased drastically. Then in June 1952 the Air Force began expressing its strength in terms of "wings" rather than "groups." It began to inactivate the combat groups and assign their combat squadrons directly to the wing.

Organizations known as "wings" have been used by the Air Force for many years. Indeed, in July

1918 the American Expeditionary Forces of the United States Army organized in France its first aircraft organization higher than a group—the 1st Pursuit Wing. Although this wing did not survive post-World War I demobilization, new wings were created in the 1920s and 1930s. During World War II numerous wings existed; some provided training in the United States, while others controlled combat groups and support organizations overseas.

Post-World War II Organization

Most of the wings that remained active after World War II were redesignated as numbered air divisions. The newly independent Air Force instituted in 1947-48 a service test of a wing-base plan, which prompted an important change in the field structure and organization of the Air Force. Old-style World War II wings supervised a mixture of combat groups and support organizations. None of the subordinate organizations were permanently affiliated with the wings or possessed similar numerical designations or standard functions. The wings organized for the service test featured standard functions. Each test wing had a combat group, a maintenance and supply group, an airdrome (later, air base) group to operate base facilities and services, and a station medical group, all with identical numerical designations. The wing-based service test rendered more nearly uniform the functions of the wing elements and permanently aligned, or affiliated, support organizations with the parent wings through identical numerical designations. All of the wings involved in the service test became in 1948 Air Force-controlled (AFCON) establishments. The term AFCON applies to all those organizations under the direct control of Headquarters USAF for organizational actions. The Air Force reserved the numbers 1 through 999 for these permanent organizations, with the numbers 101 through 300 allotted to the Air National Guard.

In addition to the permanent AFCON wings, the USAF provided temporary organizations to be controlled by the major commands. The commands wanted a flexible organization at the lower echelons to permit rapid adjustments in manning that short-term requirements often dictated. Because the manning of permanent organizations was judged ►

to be too rigid, in 1948 the Air Force created a new type of temporary organization. These major command-controlled organizations were identified as "MAJCON." Using four-digit numbers allotted to each command (for example, 3900-4399 for Strategic Air Command) by Headquarters USAF, the commands could create and end MAJCON organizations as needed. When a MAJCON organization was discontinued or inactivated, its life ended, never to be revived. The number of this organization could then be reused to designate another, entirely new MAJCON organization. Although the original intent was to provide major command flexibility in establishing and terminating short-lived, temporary organizations, some MAJCON organizations existed more than forty years.

USAF Cold War Organization

The subordinate four-group structure accepted from the 1947-48-service test (i.e., combat, maintenance and supply, air base, and medical) remained intact only a few years. Under the new AFCON organizational scheme, the combat wing and its integral combat group carried the same numerical and functional designations; for example, the 9th Bombardment Group was an integral part of the 9th Bombardment Wing. In February 1951 the Strategic Air Command (SAC) began to eliminate its combat groups by reducing group headquarters to token strength (one officer and one enlisted man) and attaching the combat squadrons directly to the wings. Thus, the wing replaced the group as the basic combat element of SAC. On 16 June 1952, with the approval of Headquarters USAF, SAC inactivated all its combat groups and assigned the combat squadrons to the wings. By the mid-1950s most USAF wings had inactivated their combat groups and assigned the flying squadrons directly to the wing. Maintenance and supply groups were eliminated, with their squadrons realigned either directly under the wing or under the air base group. Functionally, directorates within the wing headquarters controlled the subordinate squadrons. The Air Force reorganized medical functions and inactivated or redesignated the medical groups under the wing. Of the original four groups, most wings only retained the air base (later redesignated

to combat support) group. A few combat groups were again assigned briefly in the late 1970's and early 1980's to combat wings, but in general the trend to do away with them continued to the early 1990's. But, a few survived as independent groups assigned usually to numbered air divisions, and others survived in the reserve forces.

USAF Bestowed History

The SAC reorganization of 1952 also retired the World War II histories and honors of the combat groups, but the SAC wings, having been created during or after 1947, possessed no World War II histories or honors. Deviations from the wing-base plan by other commands, particularly Air Defense Command (ADC), also affected the perpetuation of histories and honors of World War II groups. In 1954 SAC and ADC leaders asked Headquarters USAF to perpetuate the histories and honors of the World War II combat groups. The ad hoc committee that reviewed these requests rejected the idea of redesignating combat groups as wings. Instead, the committee recommended that combat groups and wings be maintained as separate and distinct organizations, and that the histories and honors of combat groups be bestowed upon the similarly designated combat wings. Although the ad hoc committee's proposed bestowals ran counter to a longstanding policy of the Air Force against transferring history and honors from one organization to another, Headquarters USAF accepted the recommendations. Beginning in November 1954 the Department of the Air Force in a series of letters bestowed upon each combat wing the history and honors of its similarly designated predecessor combat group; for example, 9th Bombardment Wing received by bestowal the history and honors of the 9th Bombardment Group.

In the years since its implementation, bestowal has generated much confusion. Many throughout the Air Force did not understand that the group and the wing remained two separate and distinct entities. To alleviate some of the confusion, the Air Force in the 1980s consolidated some combat wings with their predecessor combat groups. These consolidations were limited to wings and groups whose period of active service did not overlap, ►

since consolidation of organizations with overlapping active service adds confusion, violates lineage principles, and contravenes Air Force policy. By consolidation, the wing and group became one organization, eliminating the need for bestowal of group history and honors on the wing. Bestowal, however, continued to be the policy for the majority of active Air Force wings.

In bestowing group histories and honors on wings, Department of the Air Force directives noted only that bestowals are temporary. Over the succeeding years, the Air Force formulated more specific rules governing temporary bestowals of histories and honors. Currently, the bestowal of a combat group's history and honors to a wing follows these guidelines. Bestowal:

1. Will be made only from the group that has the same numerical designation as the recipient wing and that the Air Force regards as the primary-mission group and thus is an integral part of the wing.
2. May be made if the group is
 - a. Inactive
 - b. Active and assigned to the similarly designated wing.
3. Will not be made if the group is active and assigned to any organization other than the similarly designated wing.
4. Will apply only to that portion of the group's history that the group accrued and to those honors that the group earned during a period when the wing was not active.
5. Is temporary and
 - a. Becomes effective upon activation of the wing.
 - b. Terminates if
 - 1) The group is assigned to any organization other than its similarly designated wing.
 - 2) The wing is inactivated.

Post-Cold War Reorganization

Early in the 1990s with the declared end of the Cold War and the continued decline in military budgets,

the Air Force restructured to meet changes in strategic requirements, decreasing personnel, and a smaller infrastructure. This major reorganization stressed elimination of unnecessary layers of authority, decentralization of decision-making, and consolidation of functions. The US Air Force restored a wing organizational structure, called the "objective wing," similar to the original wing-base plan. It organized each operational wing with a combat (now called operations) group, as well as logistics, support, and medical groups, with most wing squadrons assigned under the appropriate groups. Overall, the restructuring maintained a high combat capability while increasing the operational flexibility of the much-reduced force.

At the same time, the Air Force withdrew the authorization for major commands to create MAJCON organizations. Those four digit organizations active on 30 April 1991, changed to organizations under the direct control of Headquarters USAF for organizational actions, eliminating all MAJCON organizations. Among the former MAJCON organizations were about twenty active four-digit wings. Within a few years, however all those wings were inactivated, consolidated with, or replaced by lower numbered wings.

Air Expeditionary Forces

On 2 August 1990, Iraqi forces invaded and overran the neighboring State of Kuwait. Five days later, American forces began deploying to the Persian Gulf area. The United States Air Force utilized "provisional" units, which are temporary, in moving personnel and aircraft to the area. These "provisional" units, along with Army, Navy, and Allied counterparts, defeated the Iraqi forces and liberated Kuwait.

Based on Air Force policy and longstanding tradition, the history, lineage, and honors of a "provisional" unit terminates when it inactivates, and battle honors earned by the "provisional" unit are not shared with the permanent unit that provided the resources. However, Central Air Force (CENTAF) with inputs from the major commands compiled a list of the regular Air Force units to earn the Gulf War campaign streamers. Air Force Military Personnel Center (AFMPC) ►

then published the list awarding the first two campaign streamers for the Persian Gulf War.

In mid-1996, the Air Force, in response to budget cuts, major drawdowns, and changing world situations, began experimenting with air expeditionary organizations. These organizations, from squadron to wing and above, were, by definition, provisional in nature. Thus once again, in regard to air expeditionary organizations, the Air Force faced the question regarding honors earned by “provisional” units.

The Air Force Historical Research Agency coordinated with USAF Directorate of Manpower and Organization and with the major commands to establish the following policies in transferring honors from provisional units to permanent units.

1. Major force provider is the single permanent unit which provides the majority of manpower and other resources to the expeditionary organization.

a. Lineage:

1) Establishments and units given term “Expeditionary” in designation are provisional.

2) Lineage and heritage of provisional organizations will terminate upon inactivation.

3) No lineal connection exists between the expeditionary unit and the major force provider.

b. Honors:

1) Combat or expeditionary honors earned by provisional expeditionary establishment or unit may be “conferred” to corresponding permanent active organization with same numerical designation.

2) Activation order must state: “Upon inactivation, any awards or honors earned by (designation of provisional organization) are conferred on (designation of permanent organization).”

3) Honors are normally “conferred” only at the wing, group, or squadron levels.

4) Honors may be “conferred” only from a single expeditionary organization to a single permanent organization. For example, honors earned by the 4th Expeditionary Fighter Squadron may be “conferred” only on the 4th Fighter Squadron.

5) Expeditionary organization may borrow temporarily the major force provider’s honors and history.

c. Emblems: Expeditionary organization may display officially approved emblem of the major force provider with its commander’s permission.

2. “Rainbow” (no major source provider) expeditionary organization converted from permanent units by DAF letters. Example: 363 Fighter Wing redesignated to 363 Air Expeditionary Wing, converted to provisional status, and activated in Saudi Arabia.

a. Lineage:

1) Continues lineage of permanent unit.

2) May use permanent unit honors and history.

b. Honors: Evolves any earned honors to the permanent unit, consequently conferral is unnecessary.

c. Emblems: May display or use officially approved emblem/patch of the permanent unit.

The Lineage and Honors History

The following explains the arrangement of information, and the terms and format used in USAF lineage and honors statements.

Lineage. Air Force Instruction 84-105, para 2.1.1, states, “The lineages of permanent organizations are continuous. Neither inactivation nor disbandment terminates their lineage or heraldry.” Lineage entails tracing the organizational actions affecting the history of an organization. The official USAF statement of lineage forms the foundation of the organization’s history and governs the organization’s inheritance of emblem and honors. A basic policy of the Air Force is that each organization will have a unique lineage. This policy was in effect in the War Department when military aviation was under the Army and has been continued by the United States Air Force since its inception in 1947. No two organizations can have the same lineage, although at different times in their existence they may have possessed similar or even identical designations. A description of the lineage system may be found in Air Force Instruction ►

38-101 "Air Force Organization." The Air Force is composed of primary organizations called units and establishments. Units divide among three primary categories: squadrons (the numbered flight is considered a "small" squadron), miscellaneous (a category including such organizations as bands, infirmaries, hospitals, etc.), and headquarters. The headquarters organizations serve as headquarters for establishments. Establishments are Air Force organizations at group echelon or higher, having a headquarters organization as their primary component. The lineage of each organization (unit or establishment) is ultimately determined by the language employed in the War Department and Department of the Air Force letters and major command orders relating to organizational actions. The following glossary defines lineage terms.

Glossary

Activate. To bring into physical existence by assignment of personnel (from 1922-1959, and again after 1968). In 1922, "activate" replaced the term "organize." During the period 1959-1968, however, activate meant to place on the active list, available to be organized. See also "organize."

Assign. To place in a military organization, as a permanent element or component of that organization. **Attach.** To place one military organization temporarily with another for operational control and other purposes, including administration and logistical support. An attached organization is one that is temporarily serving away from the establishment to which it is assigned. It is usually attached to another establishment.

Authorize. To designate an organization and place it on the inactive Army list. Used during the middle and late 1920s and early 1930s in place of "constitute," particularly for organizations held for an emergency and not scheduled for immediate activation.

Consolidate. To combine two (or more) organizations, merging their lineage into a single line, thereby forming a single organization. Organizations with concurrent or overlapping periods of activation cannot be consolidated.

Constitute. After 1922, to give an official name, or

number and name, to an organization and place it on the inactive Army/Air Force List. See also "designate."

Demobilize. To withdraw all personnel from an active organization and remove the organization entirely from the Army List. Used 1907-1922. See also "disband."

Designate. To give an official name, or number and name, to an organization and place it on the inactive Army List, 1907-1922. After 1922, see "constitute." Also to give an official name, or number and name, to a nonconstituted organization.

Designation. The name of a unit or establishment. The designation includes all parts of the name: numerical, functional, and generic. A designation also applies to named activities and certain functions. **Disband.** After 1922, to remove an inactive organization from the inactive Army/Air Force List. Shortly before and during World War II, this action was also used to withdraw all personnel from an active organization and simultaneously remove the organization from the Army List. Replaced the term "demobilize."

Discontinue. To withdraw all personnel from a constituted organization, used only during period, 1959-1968. See "inactivate."

Disestablish. To terminate an establishment concurrent with disbandment of its headquarters organization, until reestablished.

Establish. To assign a designation to an establishment concurrent with the designation or the constitution of the headquarters organization.

Establishment. A military organization at group or higher echelon composed of a headquarters organization and any other components that might be assigned. Personnel are not assigned to an establishment, but to its components.

Inactivate. To withdraw all personnel from a constituted organization and place the organization on the inactive list (from 1922 to 1959 and from 1968 to date). During the period 1959-1968, however, to be inactivated meant to be transferred from the active to the inactive list, after being discontinued. ►

Order to the Active Service. To place a Reserve or National Guard organization on active duty with the regular Air Force.

Organization. The term organization applies to units and establishments.

Organize. To assign personnel to a designated organization (1907-1922), a nonconstituted organization (1944-1968), or a constituted organization (1959-1968). See also "activate."

Reconstitute. To return a disbanded or demobilized organization to the inactive Army/Air Force List, making it available for activation (1922-current).

Redesignate. To change the designation of an organization.

Reestablish. To return a previously existing establishment from disestablished status to the active list, so that it can be activated.

Relieve from Active Duty. Reserve organizations are relieved from active duty with the regular Air Force upon completion of a period of active duty.

ASSIGNMENTS. Each of the organization's immediate "parent" organizations is listed chronologically. The designation of the parent organization is shown in abbreviated form, omitting information such as "Heavy," "Medium," or "Light." A single date indicates the date of assignment; where a double date appears, the second date indicates termination of assignment. A semicolon is used to show a change of assignment while the organization remained active, a period indicates the organization was demobilized, disbanded, discontinued, or inactivated. If the organization was attached for operational control to another organization, the attachment appears in parentheses, with brackets used to set off parenthetical elements within parentheses. Each attachment contains double dates. Where the exact dates for attached service could not be determined with certainty a circa (c.) date is used.

COMPONENTS. Tactical components assigned, or attached for operational control, are listed in hierarchical and numerical order.

Each list shows only those components at the first subordinate echelon; the list does not show subordinate squadrons of an assigned or attached organization because these squadrons were not directly assigned. Only the numerical designation appears if the functional designations (e.g., fighter, bombardment) were identical for both the component and establishment. If the numerical designation of a component changed during its period(s) of assignment or attachment, the later designation is shown parenthetically. Example: 705th (later, 962d). Support-type components are excluded. A semicolon separating dates indicates a break in assignment or attachment. A comma indicates a change with no break in control. A squadron attached for a time and then assigned (with no break in control), for example, would be shown: Attached 1 January-29 July 1952, assigned 30 July 1952-12 July 1957. Interrupted attached service in a series would read: Attached 12 July-10 August 1956, 17 November 1956-3 January 1957, 10 July-19 August 1957, and so forth, with commas separating the series entries. This same procedure is used to show detached status of assigned components, when such detached periods are frequent. Periods of detached service, when components are detached for duty with another organization, appear in parentheses. In some cases the exact dates for detached service could not be determined with certainty. A circa (c.) date is used in these instances.

STATIONS. Permanent locations of the organization are listed chronologically. The name of each base is the one in use at the time the organization arrived, with any changes appearing in parentheses. Foreign nations that hosted Air Force organizations are identified by their "popular" name, rather than their official name. Thus, the Republic of Korea appears as South Korea, the Republic of Vietnam as South Vietnam, and the Republic of China as either Formosa or Taiwan, depending upon the time. Organizations located in occupied Germany or in the Federal Republic of Germany are listed as being in Germany. A single date indicates the arrival of the organization at a base. Semicolons separate the station-and-date entries while the organization remained active but changed stations. If an organization moved ►

from one continent to another, a double date is provided for the station being vacated. A double date is also provided whenever an organization arrived at a base and was subsequently demobilized, disbanded, discontinued, or inactivated. A period at the end of a second date indicates demobilization, disbandment, discontinuance, or inactivation. Where the exact dates of attached or detached service could not be determined with certainty, a circa (c.) date is used.

COMMANDERS. Where included, commanders of the organization are listed chronologically, along with the highest rank attained during the command tenure. When an organization was active but not manned, the statement “none (not manned)” and double dates appear. If for some reason a commander was at first temporarily and then permanently appointed, the commander’s name may be followed by one date and a parenthetical “temporary,” followed by a second date and parenthetical “permanent.” Lists of commanders are as accurate as the sources permit. Commander lists sometimes contain “unknown” as an entry, and in many of the commander lists, circa (c.) or some other indicators such as “by” a date are to be found. A second date followed by a period indicates the organization inactivated.

AIRCRAFT/MISSILES/SPACE VEHICLES. The aircraft, missiles, and/or space vehicles used by the organization appear in this section. Aircraft are listed by series and number (e.g., F-86 or EC-135), but normally not by model (e.g., B-52H or KC-135A). In the missile category, only strategic or tactical surface-to-surface missiles are included; air-to-air, air-to-ground, or surface-to-air missiles are considered ordnance. Missiles are listed by their popular names (e.g., Atlas, Titan I, Minuteman III). Space vehicles are listed as satellites. The years during which the organization possessed a weapon system are also listed (e.g., RF-101, 1959-1965). For each period of an organization’s active service, semicolons separate different weapon systems possessed and the final entry is followed by a period. An organization sometimes temporarily lost possession of its weapon system. A comma shows such temporary absences of a weapon system.

Example: B-52, 1957-1960, 1960-1962, 1963-1965. In other words, for a time in 1960 and from a period in 1962 to sometime in 1963, the organization had no B-52 aircraft for its own use, all being under the control of another organization.

OPERATIONS. Information in this section is extremely abbreviated, but mentions all combat and some other significant operations. In wing entries, overseas deployments are mentioned, together with changes in wing status and the wing’s mission. Readers who wish to know more about an organization’s operations may visit the Air Force Historical Research Agency to conduct research, or purchase through the mail microfilm copies of unclassified histories. Some additional information about squadrons may be found in the entries of the wing(s) to which a squadron was assigned or attached, either at <http://afhra.maxwell.af.mil/> or in Charles A. Ravenstein, “Air Force Combat Wings: Lineage and Honors Histories, 1947-1977.”

SERVICE STREAMERS. Service streamers represent noncombat service in the various theaters of military operations and bear no embroidery. Those service streamers earned by the organization are listed here. If an organization participated in combat operations in a theater, it earned a campaign streamer instead of a service streamer. For a color photograph and a description of the streamer, see A.T. Warnock, “Air Force Combat Medals, Streamers, and Campaigns.”

World War I

- Theater of Operations: 6 April 1917-11 November 1918

World War II

- American Theater: 7 December 1941 2 March 1946.
- European-African-Middle Eastern (EAME) Theater: 7 December 1941 8 November 1945.
- Asiatic-Pacific Theater: 7 December 1941 2 March 1946.

Korean War

- Korean Theater: 27 June 1950 27 July 1954.

Vietnam

- Vietnam Theater: 1 July 1958-28 March 1973. ►

Southwest Asia

- Southwest Asia Theater: 2 August 1990-30 November 1995.

CAMPAIGN STREAMERS. Verified combat credit entitles an organization to the appropriate campaign streamers representing the named campaign in which it participated. The campaign streamer will be embroidered with the name and years of the campaign. The Historical Research Agency has traditionally evaluated and verified

combat credits. Campaign streamers listed reflect each organization’s verified combat record except for the Gulf War campaign credits. US Central Command Air Forces provided the credits for the first two campaigns of the Persian Gulf War. Recipients of the third and final campaign streamer credit have not yet been announced. For a color photograph of the streamer, maps of the campaigns, and a brief description of each campaign, see A.T. Warnock, “Air Force Combat Medals, Streamers, and Campaigns.” ▶

World War I		
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer
Some Defensive	21 March-6 April 1918	1918
Lys	9-27 April 1918	1918
Champagne-Marne	15-18 July 1918	1918
Aisne-Marchne	18 July-6 August 1918	1918
Somme Offensive	8 August-11 November 1918	1918
Oisne-Aisne	18 August-11 November 1918	1918
St. Mihiel	12-16 September 1918	1918
Meuse-Argonne	26 September-11 November 1918	1918
Alsace	Defensive Sectors - no dates embroidered on streamer(s)	
Champagne		
Flanders		
Ile-de-France		
Lorraine		
Picardy		

World War II European-African-Middle Eastern Theater

Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer
Air Combat	7 December 1941-2 September 1945	1941-1945
Antisubmarine	7 December 1941-2 September 1945	1941-1945
Egypt-Libya	11 June 1942-12 February 1943	1942-1943
Algeria-French Morocco	8-11 November 1942	1942
Tunisia	12 November 1942-13 May 1943	1942-1943
Sicily	14 May-17 August 1943	1943
Naples-Foggia	18 August 1943-21 January 1944	1943-1944
Anzio	22 January-24 May 1944	1944
Rome-Arno	22 January-9 September 1944	1944
North Apennines	10 September 1944-4 April 1945	1944-1945
Po Valley	5 April-8 May 1945	1945
Air Offensive, Europe	4 July 1942-5 June 1944	1942-1944
Normandy	6 June-24 July 1944	1944
Northern France	25 July-14 September 1944	1944
Southern France	15 August-14 September 1944	1944
Rhineland	15 September 1944-21 March 1945	1944-1945
Ardennes-Alsace	16 December 1944-25 January 1945	1944-1945
Central Europe	22 March-11 May 1945	1945



World War II Asiatic-Pacific Theater

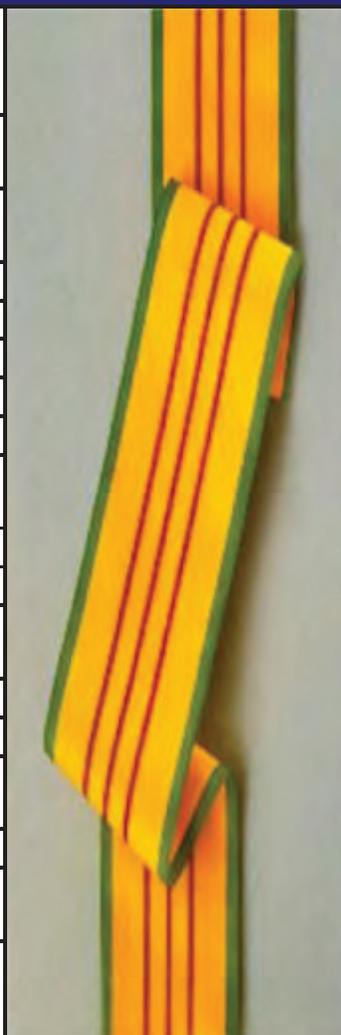
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer
Air Combat	7 December 1941-2 September 1945	1941-1945
Antisubmarine	7 December 1941-2 September 1945	1941-1945
Central Pacific	7 December 1941-6 December 1943	1941-1943
Philippine Islands	7 December 1941-10 May 1942	1941-1942
East Indies	1 January-22 July 1942	1942
Papua	23 July 1942-23 January 1943	1942-1943
Aleutian Islands	3 June 1942-24 August 1943	1942-1943
Guadalcanal	7 August 1942-21 February 1943	1942-1943
Northern Solomons	22 February 1943-21 November 1944	1943-1944
Bismarck Archipelago	15 December 1943-27 November 1944	1943-1944
Eastern Mandates	7 December 1943-16 April 1944	1943-1944
Western Pacific	17 April 1944-2 September 1945	1944-1945
New Guinea	24 January 1943-31 December 1944	1943-1944
Leyte	17 October 1944-1 July 1945	1944-1945
Luzon	15 December 1944-4 July 1945	1944-1945
Southern Philippines	27 February-4 July 1945	1945
Burma	7 December 1941-26 May 1942	1941-1942
India-Burma	2 April 1942-28 January 1945	1942-1945
Central Burma	29 January-15 July 1945	1945
China Defensive	4 July 1942-4 May 1945	1942-1945
China Offensive	5 May-2 September 1945	1945
Ryukyus	26 March-2 July 1945	1945
Air Offensive, Japan	17 April 1942-2 September 1945	1942-1945



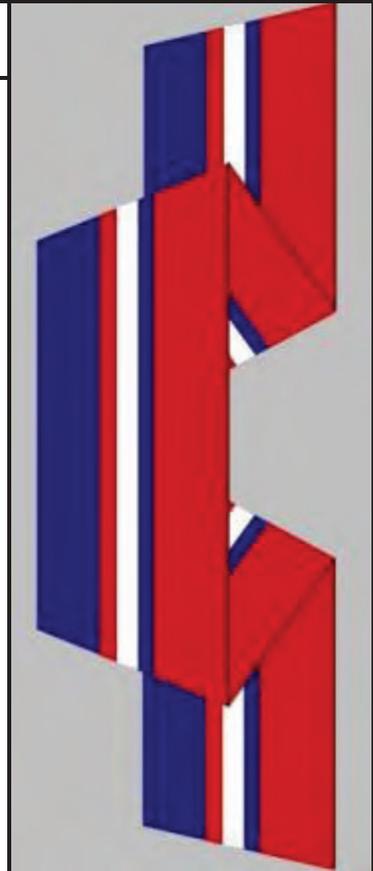
Korea		
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer
UN Defensive	27 July-15 September 1950	1950
UN Offensive	16 September-2 November 1950	1950
CCF Intervention	3 November 1950-24 January 1951	1950-1951
First UN Counter-offensive	25 January-21 April 1951	1951
CCF Spring Offensive	22 April-8 July 1951	1951
UN Summer-Fall Offensive	9 July-27 November 1951	1951
Second Korean Winter	28 November 1951-30 April 1952	1951-1952
Korea, Summer-Fall	1 May-30 November 1952	1952
Third Korean Winter	1 December 1952-30 April 1953	1952-1953
Korea, Summer	1 May-27 July 1953	1953



Vietnam		
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer
Vietnam Advisory	15 November 1961-1 March 1965	1961-1965
Vietnam Defensive	2 March 1965-30 January 1966	1965-1966
Vietnam Air	31 January-28 June 1966	1966
Vietnam Air Offensive	29 June 1966-8 March 1967	1966-1967
Vietnam Air Offensive, Phase II	9 March 1967-31 March 1968	1967-1968
Vietnam Air/Ground	22 January-7 July 1968	1968
Vietnam Air Offensive, Phase III	1 April-31 October 1968	1968
Vietnam Air Offensive, Phase IV	1 November 1968-22 February 1969	1968-1969
TET 69/Counter-offensive	23 February-8 June 1969	1969
Vietnam Summer-Fall	9 June-31 October 1969	1969
Vietnam Winter-Spring	1 November 1969-30 April 1970	1969-1970
Sanctuary Counter-offensive	1 May-30 June 1970	1970
Southwest Monsoon	1 July-30 November 1970	1970
Commando Hunt V	1 December 1970-14 May 1971	1970-1971
Commando Hunt VI	15 May-31 October 1971	1971
Commando Hunt VII	1 November 1971-29 March 1972	1971-1972
Vietnam Ceasefire	30 March 1972-28 January 1973	1972-1973



Southwest Asia			
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer	
Defense of Saudi Arabia	2 August 1990-16 January 1991	1990-1991	
Liberation and Defense of Kuwait	17 January-11 April 1991	1991	
Southwest Asia Ceasefire *	12 April 1991-30 November 1995	1991-1995	

Kosovo			
Campaign Name Embroidered on Streamer	Inclusive Dates	Date Embroidered on Streamer	
Kosovo Air Campaign	24 Mar 1999-10 Jun 1999	1999	

ARMED FORCES EXPEDITIONARY STREAMERS. Until 1983, this Joint Chiefs of Staff award was given only to individuals, not to any USAF organization. Since that date, the Armed Forces Expeditionary Streamer has been given to Air Force organizations for only two operations: the invasion and occupation of Grenada, 23 October-21 November 1983, and the US invasion of Panama, December 1989-January 1990. For a color photograph of the streamer and a brief description of each operation, see A.T. Warnock, "Air Force Combat Medals, Streamers, and Campaigns."

DECORATIONS. Decorations include citations and awards recognizing distinguished or meritorious acts by an organization. In this list, the type of decoration is cited together with specific dates, if date appeared in the award document, usually a general or special order. Air Force Pamphlet 900-2, produced by the Air Force Military Personnel Center, contains the official listing of organization decorations up to circa mid-1991. In addition, since late 1988 each Major Command has been authorized to award some decorations to its subordinate units. The decorations listed in this section of the L&H generally agree with those appearing in the orders, but some revisions may be made based on actual operations. For example, the dates stated in an order may cover a time before an organization was active or after it became inactive. Corrected dates are shown within brackets. The embroidery should be exactly the same as the listing on the official Lineage and Honors History for the unit. For example: Ploesti, Rumania, 1 August 1943.

United States

Distinguished Unit Citation (DUC). Used by the  US Army and Army Air Forces. First established by Executive Order 9075 on 26 February 1942, awarded for extraordinary valor in action on or after 7 December 1941.

Presidential Unit Citation (PUC). Equivalent to the  Distinguished Unit Citation. The PUC is used by the US Navy and was awarded to a number of AAF organizations that operated under Navy control or in close

support of the Navy. After 1965, the US Air Force adopted the Presidential Unit Citation instead of the Distinguished Unit Citation to recognize outstanding combat performance of its tactical organizations.

Air Force Outstanding Unit Award with Combat "V" Device (AFOUA/V). The  AFOUA/V is awarded in lieu of the AFOUA (below) to recognize achievement in combat by USAF units and establishments. The Combat "V" Device was first used during the conflict in Southeast Asia.

Air Force Outstanding Unit Award (AFOUA).  USAF decoration used to recognize outstanding efforts and meritorious actions of USAF units and establishments in peace and war, the AFOUA was announced in Department of the Air Force General Orders No. 1 on 6 January 1954. (Several units and establishments received this award retroactively, for meritorious actions during the Korean War.)

Air Force Organizational Excellence Award (AFOEA). The AFOEA was  established on 26 August 1969 by the Secretary of the Air Force. It is awarded by the Secretary to recognize the achievements and accomplishments of Air Force organizations and activities that do not meet the eligibility requirements of the AFOUA (above). The AFOEA may be awarded with the "V" device for combat or direct combat support.

Meritorious Unit Commendation (MUC). The  US Army's Meritorious Unit Commendation, roughly equivalent to the AFOUA (above), has been earned by a number of AAF and USAF organizations. This decoration recognizes outstanding and meritorious actions in both peace and war, but these actions are considered to be of a lesser consequence than those recognized by a Distinguished Unit Citation (above).

Navy Unit Commendation (NUC). The US Navy  Unit Commendation, also roughly equivalent to the AFOUA (above), has been awarded to a few AAF and ►

USAF organizations which worked closely with the Navy. The award recognizes outstanding and meritorious actions in both peace and war, but these actions are considered to be of a lesser consequence than those recognized by a Presidential Unit Citation (above).

Belgium

Citation in the Order of the Day, Belgian Army. A  citation by decree of the Belgian Government. Numerous AAF units and establishments which operated in or over Belgium during World War II received this award.

Belgian Fourragere. A decoration awarded, by decree of the Belgian Government, to organizations cited twice in the Order of the Day, Belgian Army.

France

Croix de Guerre. A citation by decree of the French  Government, awarded to Army Air Service organizations in World War I and Army units and establishments in World War II. Generally identified as French Croix de Guerre with Palm.

French Fourragere. A decoration, awarded by decree of the French Government in World Wars I and II, to units and establishments cited twice for the Croix de Guerre.

Korea

Republic of Korea Presidential Unit Citation. A  citation for achievement during the Korean War. Most commonly presented to organizations based in Korea and

carrying out combat operations there, but also awarded to some organizations, both combat and support types, based in adjacent areas. Since the cessation of hostilities in Korea in July 1953, this decoration has been awarded rarely to USAF units and establishments--usually in recognition of outstanding support in the defense of Korea.

Philippines

Philippine Presidential Unit Citation. A citation for  achievement while serving in the Philippines during the periods 7 December 1941-10 May 1942 or 17 October 1944-4 July 1945. No date is connected with the citation. Only one award is authorized for every eligible organization, including those that served in the Philippines during both periods.

Philippine Republic Presidential Unit Citation. A  number of USAF organizations stationed in the Republic of the Philippines in July and August 1972 earned this citation in recognition of their participation in disaster relief Operations.

Vietnam

Republic of Vietnam Gallantry Cross with Palm.  This organization decoration was awarded to units and establishments actually engaged in combat in defense of the Republic of Vietnam. In numerous instances, it was also awarded to combat support organizations and tactical organizations that were based outside the Vietnam Theater yet flew missions or provided essential services to organizations flying to or operating within the theater. ▲