

An aerial photograph of the Grand Canyon, showing the vast, layered rock formations in shades of red, orange, and brown. At the bottom of the canyon, a small town with several buildings and a road is visible.

Aerial GRAND CANYON

THE BIBLIOGRAPHICAL RECORD OF AVIATION
AND FLIGHT ACTIVITY
AT THE
GRAND CANYON
OF ARIZONA

A black and white photograph of two men standing next to a biplane. The man on the left is wearing a dark shirt and pants, and the man on the right is wearing a light shirt and dark pants. The biplane is a dark-colored aircraft with a light-colored upper wing. The tail of the aircraft has the text "R.V. THOMAS" and "PAID" written on it.

EARLE E. SPAMER
COMPILER

R.V. THOMAS
PAID



H-3970 AIRPLANE VIEW OF GRAND CANYON (EL TOVAR HOTEL IN THE FOREGROUND).

ON THE COVER

(Top) "Airplane View of Grand Canyon (El Tovar Hotel in the Foreground)." Undated Fred Harvey postcard H-3970 [produced for Fred Harvey by the Detroit Publishing Co.]. (Author's collection)

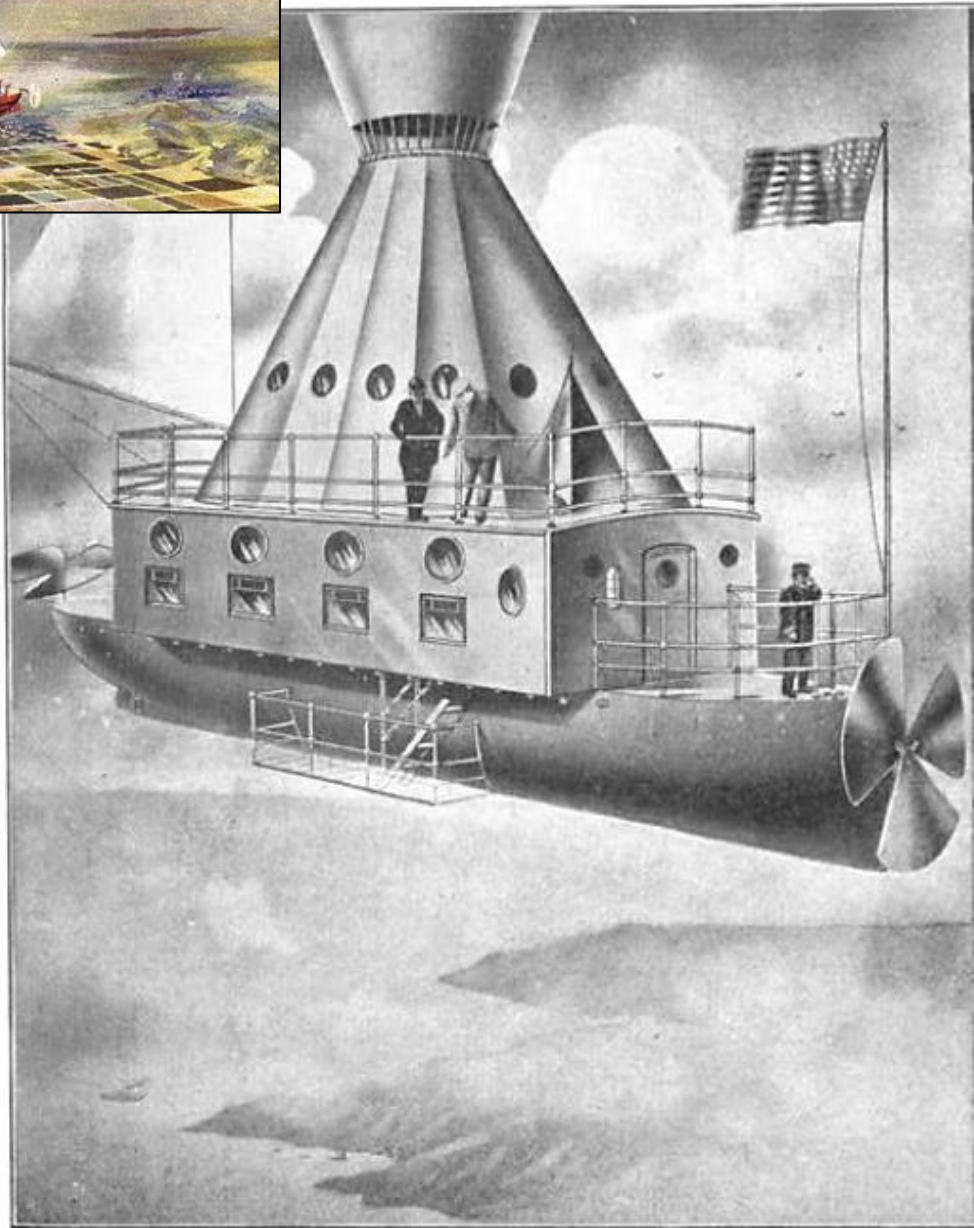
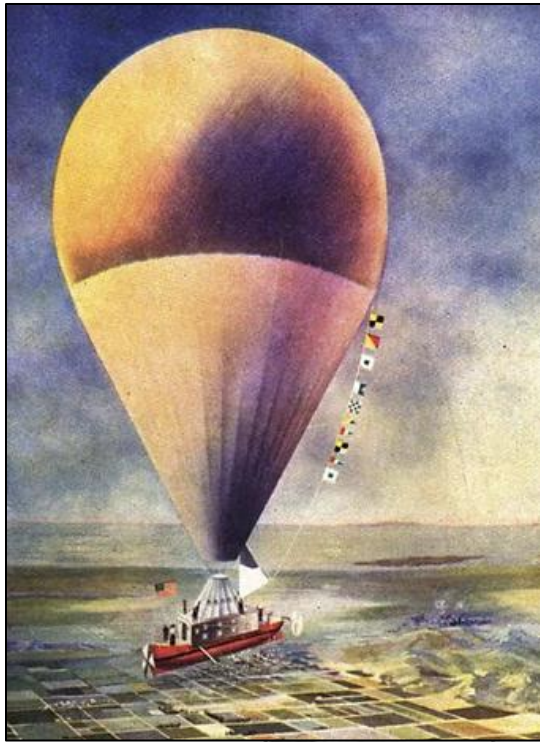
(Bottom) Photographer Ellsworth L. Kolb (*left, with camera*) and pilot Royal V. Thomas, after the true first landing of an aircraft in the Grand Canyon. (National Park Service, Grand Canyon National Park, GRCA 05255)

This Kolb Brothers photo was taken by Emery Kolb showing his brother, Ellsworth, and daredevil stunt pilot and former Army aviator Royal Vearl Thomas beside the Lincoln Standard biplane that Thomas had landed on an improvised 500-foot air strip on the Tonto Plateau near Plateau Point beneath Grand Canyon village on August 8, 1922. This was the first airplane to land inside the Grand Canyon, often overlooked in favor of a second, more highly publicized, landing ten days later by Thomas with a newsreel photographer. (See *back cover*.) Thomas had left from Williams, Arizona, with Ellsworth accompanying him to film the exploit (for which Kolb had paid Thomas). Winds later slightly damaged the aircraft, necessitating a minor repair to the tail before Thomas took off the next day. (See also a photo of the aircraft in flight, as viewed from the Kolb Studio on the South Rim: <https://cdm16748.contentdm.oclc.org/digital/collection/cpa/id/15125/rec/34> ; accessed May 3, 2025.)



First Airplane Landing made in the Grand Canyon of Arizona on Aug 8, 1922.
R.V. Thomas Pilot E.L. Kolb Passenger-Cameraman

AERIAL GRAND CANYON



Frontispiece — A Grand Canyon Aviation Wonder That Might Have Been

(see legend on p. iii)

Aerial

GRAND CANYON

THE BIBLIOGRAPHICAL RECORD OF
AVIATION AND FLIGHT ACTIVITY
AT THE
GRAND CANYON OF ARIZONA

compiled by Earle E. Spamer



A Raven's Perch Digital Production



RAVEN'S PERCH MEDIA

BIBLIOGRAPHICAL AND HISTORICAL RESOURCES ON THE
GRAND CANYON AND LOWER COLORADO RIVER REGIONS OF THE
UNITED STATES AND MEXICO

AERIAL GRAND CANYON

compiled by Earle E. Spamer

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Aerial Grand Canyon : the bibliographical record of aviation and flight activity at the Grand Canyon of Arizona

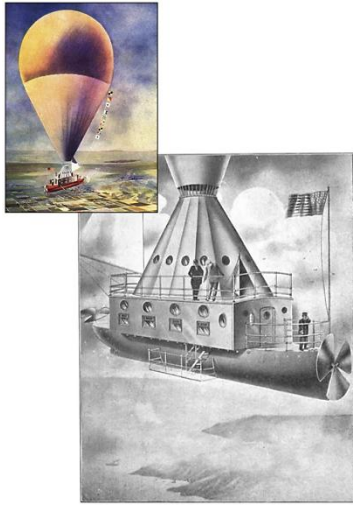
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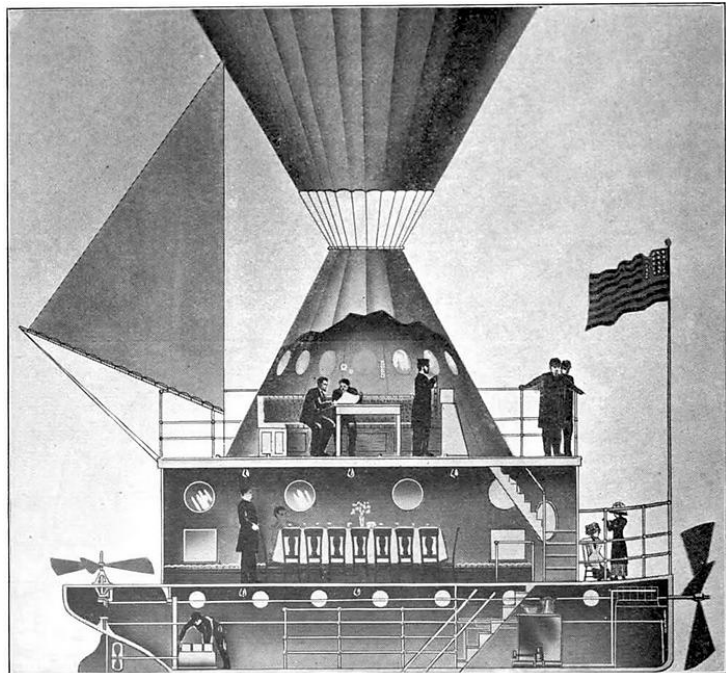
A GRAND CANYON AVIATION WONDER THAT MIGHT HAVE BEEN

Around 1910, a 77-year-old visionary in retirement, “Professor T. S. C. Lowe,” [Thaddeus Sobieski Constantine Lowe] called upon his ballooning experiences that began with his Civil War ballooning corps. He issued a prospectus promoting the Lowe Planet Airship, a peculiar contraption that promised luxurious air travel aboard a well-appointed propeller-driven gondola (with outdoor observation deck) slung beneath a balloon. In the prospectus, William Knight imagined for the reader (and investor):

“High over the Mohave Desert and the gleaming Colorado River it flies, then bending its course to the northward, follows the windings of that wonderful gorge — the Grand Canyon. Here the passengers gain

birdseye views, never before vouchsafed to the eye of man, of the magnificent scenes in that profound cleft of the earth's surface, and from a vantage point undreamed of by Major Powell who first penetrated its deep mysteries.

The Latest Development in Aerial Navigation. Lowe Planet Airship. (Aerial Publishing Co., Los Angeles, ca. 1910). (The nautical flags strung from the balloon in the frontispiece spell out “Los Angeles”.)



T. S. C. Lowe portrait from Wikimedia Commons

https://commons.wikimedia.org/wiki/File:Thaddeus_Lowe.jpg (accessed May 9, 2025);

see also Wikipedia https://en.wikipedia.org/wiki/Thaddeus_S._C._Lowe



A historic Ford Tri-Motor in modern Grand Canyon Airlines livery, 2005

Public domain photo by Bzuk

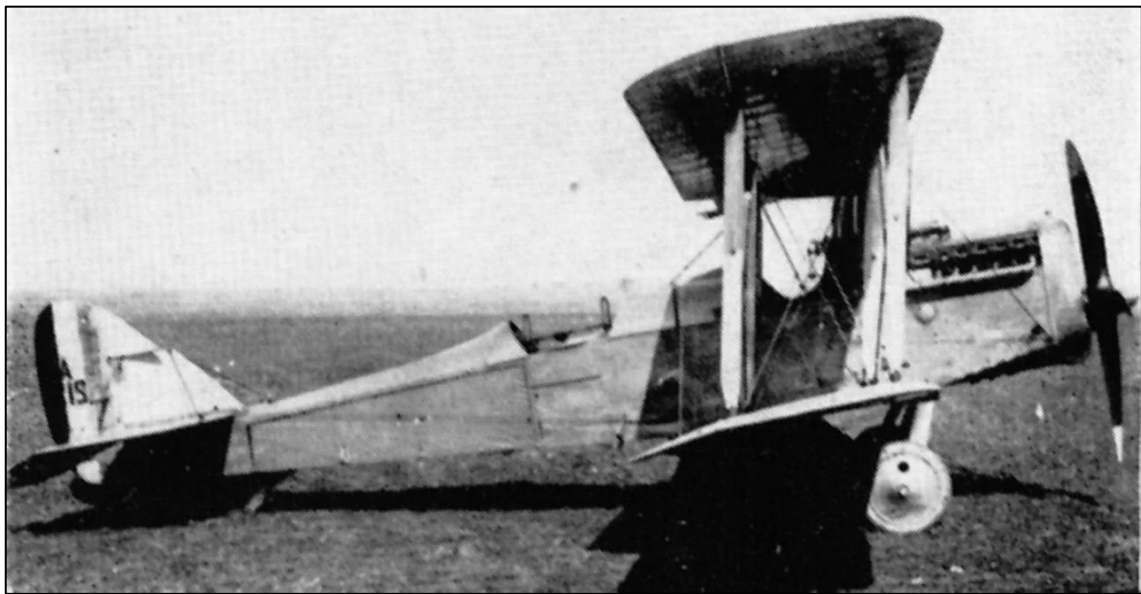
Wikimedia Commons https://commons.wikimedia.org/wiki/File:Scenic_Trimotor.JPG

(accessed May 6, 2025)

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An early De Havilland DH-4 airplane, similar to that piloted by 1st Lt. Ralph Olaf Searle, U.S. Army Air Service, on the first aerial flight at the Grand Canyon, February 24, 1919.

Wikimedia Commons

<https://commons.wikimedia.org/wiki/File:EarlyDH4.jpg> (accessed May 3, 2025)

INTRODUCTION

FEBRUARY 24, 1919, saw the first airplane flight over and into the Grand Canyon. Coincidentally, this was two days before the creation of Grand Canyon National Park. Piloted by 1st Lt. Ralph Olaf Searle with E. D. Jones, U.S. Army Air Service, it was a side trip from a four-aircraft expedition from Texas to California. The following day, another craft from the expedition piloted by Lt. Charles Rugh with Fox News newsreel photographer Lewis Lewyn flew into the canyon. These were the first of several investigations that would be made by the Air Service to analyze the handling of aircraft in that space while also searching for potential landing sites, and the first to promote the Air Service ventures with civilian photographers. It also heralded general aviation flights to and into the canyon—and the harbinger of commercial flights, which came soon.

Two years earlier, pioneer aviator Orville Wright gave a talk to a national parks conference in Washington, D.C., where he foresaw that tourists to the parks may arrive by air. But as for sight-seeing tours, he was not as enthusiastic. “No matter by what route we arrive,” he said, “our national parks must be viewed from the ground to be fully appreciated. The giant sequoia, when viewed from on high, will be no more impressive than the modest shrub, and the Grand Canyon of the Colorado will flatten out almost to a plain. Though the shining river will be seen winding its tortuous way in a mass of variegated colors, the grandeur of the gorge in size and sculpture will be gone.”¹ If only he could have seen a half century into the future when began decades of administrative angst that would come of (first) unrestrained (then) regulated air tours over (and into) the Grand Canyon (see [Part 3](#)). Nor could he have imagined the administrative revolution in the control of air traffic that followed the catastrophic midair collision of two commercial airliners over the Grand Canyon in 1956 in which 128 people died (see [Part 2](#) herein). The present bibliography gathers the published record of all manner of aviation events, issues, and policies over more than a century—as many as have been found during the compiler’s work of more than 50 years.

¹ “Air Routes to the National Parks,” in *Proceedings of the National Parks Conference: Held in the Auditorium of the New National Museum, Washington, D.C., January 2, 3, 4, 5, and 6, 1917* (U.S. Government Printing Office, Washington, 1917), pp. 281-283.

A 1995 research paper by Ronald L. Warren admirably summarizes the first flights and continues the perspective for 75 years afterward.² Users of this annotated bibliography should be aware that the facts in some items are in disagreement; such is the nature of news reporting and contemporary editorial whims that later scholarship always attempts to corroborate, clarify, and correct. As such, users should bear in mind that this bibliography records in real time and often without benefit of later study.

The citations herein are mostly culled from the fifth edition (2025) of *The Grand Canon*, a far more comprehensive bibliography for the Grand Canyon and Lower Colorado River regions.³ While that work strives for great comprehensiveness, it obviously cannot list absolutely everything ever published on the numerous topics it embraces, nor does it include the rich trove of manuscript materials that can be found in libraries and archives, nor the blizzard of newspaper articles from across the nation and around the world. For the most part it records that which was published in magazines and books, in multiple copies, which can be located in numerous libraries and collections. *Aerial Grand Canyon* reorganizes these citations according to various topics and coverages, as indicated on the [contents](#) page: it is in three principal parts: a topical bibliography in 11 particular categories, a bibliography devoted to the 1956 midair collision of two commercial airliners over the Grand Canyon, and a comprehensive accounting of administrative matters relating to Grand Canyon aviation.

The various categories of the topical bibliography best bring to light the types of aviation that have taken place at Grand Canyon. Some of it may reveal new things to some readers; for example, the accounts of those who had (illegally) hang-glided into the canyon and (legally) flown over it wearing only body wingsuits of one sort or another. Aerobatic flying and stunts other than wingsuit flights, and items about aviation infrastructure likewise offer unusual perspectives not often thought about. These are in addition to categories that might be expected, including tourism; general, commercial, and military aviation, rotorwing and lighter-than-air aviation; and aviation accidents, medevacs, aerial searches, and human-safety records.

Lest one believe that the first flights to and into the canyon were one-off military ventures, take note that a widely publicized flight conducted in June 1921 by Lt. Alexander Pearson, Jr. was

² Ronald L. Warren, "Aviation at Grand Canyon; a 75-Year History," *Journal of Arizona History*, Vol. 36, no. 2 (Summer 1995), pp. 151-172.

³ Earle E. Spamer, *The Grand Canon. A Worldwide Bibliography of the Grand Canyon and Lower Colorado River Regions in the United States and Mexico. Volume 1, Part B: Bibliography. Fifth Edition* (Raven's Perch Media, 2025, <https://ravensperch.org>). With its complementary *Cartobibliography*, THE GRAND CANON series covers the 16th to 21st centuries, comprising now 111,000 citations in 115 languages during 490 years. For a 50-year personal retrospection of this work, see "50 Years," <https://ravensperch.org/50-years/>.

actually a series of flights conducted over two weeks, with significant preparation—14 flights in 14 days with a total time in the air of 22 hours and 5 minutes, hardly the notable single flight so widely announced in some rather mixed-up fashion in the magazines. A summary was reported at length in the *Aviation and Aircraft Journal* shortly afterward, which in turn was apparently taken from a longer official report from the U.S. Army Air Service; that informative magazine article is reproduced herein.⁴ And while Pearson’s flights did descend into the canyon, he did not land in its depths even though a title by the distinguished *New York Times* gave that impression.

The first landing in the canyon came, less well noticed, a year afterward when former Air Service lieutenant Royal Vearl Thomas set his biplane down on a roughly prepared strip on the Tonto Plateau. While that flight can be considered a General Aviation flight, in as much as Thomas then was working among the entertaining “barn stormer” aviators of the day, it was actually the second General Aviation flight at the canyon. The first non-military pilot to fly there was H. H. “Hal” Bullen of Denver, who had coincidentally arrived at Grand Canyon when Lt. Pearson was making his flights.⁵ Thomas’s paying passenger was Grand Canyon photographer Ellsworth L. Kolb, who made a motion picture of the adventure despite a malfunctioning camera. His photographer bother, Emery, awaited the landing near Plateau Point and documented part of the event with a still camera.⁶ Regretfully, this true first landing in the canyon was eclipsed a week and a half later when Thomas returned with a newsreel cameraman from Fox News, Valentine Anthony Ugrin; and that landing was widely promoted as the “first” landing in the canyon.⁷ Promotions were made not only through movie theater newsreels but through the wide advertising of the Fred Harvey company, the Santa Fe Railway’s hospitality juggernaut that commanded Grand Canyon’s tourist enterprise. Even reading the citations of the “First Flights” section of this bibliography does not clearly distinguish the nature of these many flights, which is the fault of busy editors who crafted the original articles and titles for

⁴ See the published account reproduced farther below, with additional notes, on pp. 7–11.

⁵ See in the extended footnote quoting Stephen T. Mather accompanying the *Aviation and Aircraft Journal* transcription on pp. 7–11.

⁶ While a few of Emery’s photographs survive (see the front cover, for example), the motion picture films apparently do not. The Kolb Brothers photo archives in the Special Collections and Archives, Cline Library, Northern Arizona University, include a spliced film in which is a brief view of a biplane in flight near the Kolb Studio on the South Rim, including a view of its flying into the canyon. There is no indication of date or who the pilot was. See <https://cdm16748.contentdm.oclc.org/digital/collection/cpa/id/103509/rec/20> (accessed May 3, 2025); specifically the views at timepoints 0:36–0:45 and at 0:54–1:11. The studio is in the view as also is a passing mule train.

⁷ See the front and back covers of the present volume.

general and specialist audiences. Surely there are more such briefly published accounts, but they have not as yet been discovered.⁸

As a matter of introduction, following is a categorical summary of Ronald L. Warren's study of the first 75 years of aviation at Grand Canyon.⁹ The reader thus may grasp the historical progression and occasional economic volatility of the subject as it evolved. Warren includes events of interest to northern Arizona aviation, too, without Grand Canyon visits, which are omitted in the Grand Canyon accounting that follows. Readers should consult Warren for much more detail surrounding these synoptic notes.

1919—Army Air Service 1st Lt. Ralph Olaf Searle and E. D. Jones flew over and into the Grand Canyon on February 24. The following day Lt. Charles Rugh with Fox News photographer Lewis Lewyn flew into the canyon. On February 26, Lt. Eric Nelson and his mechanic flew into the canyon, about whom Warren observed, "They unknowingly became the first sightseers in Grand Canyon National Park, a status that Congress had bestowed on the the natural wonder several hours earlier."¹⁰

1920—On October 2, Lt. Harry Halverson flew from Kingman to the canyon at El Tovar—a first—but demurred to flying into the chasm, citing dangerous air currents in that deepest part of the canyon. He was accompanied by another Fox News photographer, Sam Greenwald, who became air sick [a less distinguished "first"].

1921—Lt. Alexander Pearson commands a flight of four aircraft on a western expedition, several of whom flew to and into the canyon from Williams in June. They at last flew into the deep El Tovar section. In September, as part of an ambitious national circuit of aerial photography, Capt. Albert W. Stevens and Lt. John A. Macready photographed the canyon during an overflight.¹¹ The movie *Sky High* is released the following year with aerial footage that, within the plot line of the film, depicts star Tom Mix flying into the canyon in pursuit of bandits.¹²

⁸ Newspaper accounts from far and wide, other than those in the nationally distributed *New York Times*, are not recorded in this bibliography (nor in *The Grand Canon* main source).

⁹ Warren, "Aviation at Grand Canyon" (cited in *footnote 2*).

¹⁰ Warren, "Aviation at Grand Canyon," p. 152. They of course were the first *aerial* sightseers in the new national park, in as much as hundreds were already on the ground there as tourists.

¹¹ John A. Macready, "The Non-Stop Flight Across America," *National Geographic Magazine*, Vol. 46, no. 1 (July 1924), pp. 1-83. Photographs of the Grand Canyon (pp. 64, 65) are U.S. Army Air Service photos from another flight, not the record-setting non-stop flight that is the main subject of this article. See the accompanying article without by-line (pp. 85-92), about the Stevens-Macready eight-week aerial survey of the U.S., which only mentions Grand Canyon in passing (p. 85).

¹² *Sky High* (Fox Film Corporation, 1922). The aerial footage was that taken by Blaine Walker, who was awarded a gold medal by Fox at its studios, with Tom Mix officiating, for his efforts in producing the first footage taken below the rim of the Grand Canyon. ("Blaine Walker Awarded Gold Medal for Daring," *Moving Picture World* [September 10, 1921], p. 161.)

INTRODUCTION

1922—On August 8, civilian aviator Royal Vearl Thomas and photographer Ellsworth L. Kolb fly from Williams to the Grand Canyon and make the first landing inside the canyon, near Plateau Point (*see front cover herein*). Ten days later, Thomas returns to the landing strip with Fox News photographer Valentine Anthony Ugrin (*see back cover*).

1925—Bob Hausler, a former Army Air Service pilot, attempted to interest parties in a rail-plane tour including Grand Canyon, picking up passengers from the Santa Fe Railway transcontinental trains at one depot and returning them to another farther down the line. The venture did not catch on.¹³

1926—Grand Canyon's Emery Kolb obtained U.S. Forest Service permission to lay out a landing strip on a Kolb Brothers mining claim, but it received virtually no use, having been used once by civilian aviator Charley Mayse who had flown "the first paying passengers on a sightseeing flight over the Grand Canyon" from Williams.¹⁴

1926–1927—Scenic Airlines was born from the efforts of aviation manufacturer Bill Stout, who, with his chief pilot and manager Parker Van Zandt, having been redirected from cooperating with the Kolbs, began work on the well known Red Butte airfield. Landing permits were also obtained on both rims of the canyon.

1930–1931—Jack Thornburg incorporated Grand Canyon Airlines after he and businessman Ray Schaf purchased Scenic Airlines' Red Butte field. The first sightseeing passengers on GCA flew over the canyon on May 6, 1931. Later that year, recognizing a growing business and after some financial dealings,

¹³ See, however, a 1929 test flight by Transcontinental Air Transport that carried ten passengers in a Ford Tri-Motor ("Air-Rail Riders Reach Los Angeles." *The New York Times*, (June 29, 1929), p. 2. The Party departed Pennsylvania Station in New York City, arriving in Los Angeles in two days. The rail trip was interrupted twice to transfer to Ford Tri-motor aircraft; the second transfer was at Clovis, New Mexico, with landings in Winslow and Kingman, Arizona.

"At Winslow, Ariz., Wilson, the courier, put lunch aboard. [. . .] Here two new pilots took charge—John Gugliometti and Wesley Phillippi—and in the next two hours and twelve minutes they gave the travelers the greatest thrill of the trip.

"It was suggested that because they were well ahead of the schedule it might be nice to go fifty or sixty miles off the course and have a look at the Grand Canyon from the air. Traffic officials were consulted and the change in course was approved.

"Out of Winslow the plane turned southwesterly [*sic*], skirting the western edge of the Painted Desert and dodging to the east of a thunderstorm that was playing about the crags of San Francisco peak.

"Wilson served luncheon, and as the plane climbed higher, reaching 12,000 feet, the passengers ate and enjoyed a spectacle it is not given many to see. For twenty minutes they flew above the canyon, saw its varicolored sides, its palisades and turrets, rearing up, one above the other, in buff and ebony, in red and purple. Straight down, 8,000 feet from their perch on the wings of the wind, the diners saw the muddy Colorado steadily plowing its way deeper into the narrow chasm that forms the centre of the canyon.

"It was reassuring, also, to look down on the wooded plateau on either side and see emergency landing fields providentially placed in case of need.

"The Canyon trip, it is possible, will be included in the regular schedule of the Transcontinental Air Transport trip."

¹⁴ Warren, "Aviation at Grand Canyon," p. 157. Emery's brother, Ellsworth, had in fact been the first "paying passenger" when he flew with Royal V. Thomas in 1922, although that was more of a contractual arrangement than true ticket-counter tourism.

INTRODUCTION

Thornburg purchased a used 4-AT Ford Tri-Motor. The Tri-Motors are still revered, at least historically, for Grand Canyon tour flights (*see also p. iv herein*).¹⁵

1931—Navajo Airways was incorporated in the spring to begin train-plane sightseeing tours for railway passengers between Winslow and Kingman but was ushered out when Grand Canyon Airlines obtained federal sanction through the national park to exclusively provide aerial tours of the canyon. And more used Ford Tri-Motors were acquired.

1937—A financially restructured Grand Canyon Airlines was dissolved after basing in Boulder City, Nevada, as Grand Canyon Scenic Tours and a new company, Grand Canyon Boulder Dam Tours; but diminishing financial circumstances required selling off the venerable Tri-Motors. The company's players also began to disperse into other but similar businesses.

1938–1946—G. & G. Airlines took over the Grand Canyon–Boulder City tour business, which, while financially unstable at first, went dormant during the coming war years, beginning again in 1946. Walter Douglas, Jr., who had taken over the original G. & G. Air Line Company in 1934, was the business heart of the enterprise.

1948—Jim Fanscher went into competition for tourist flights operating Scenic Skyways out of a U.S. Army surplus airfield at Valle, Arizona.

1950—The first helicopter tours of Grand Canyon began with Arizona Helicopter Service, based in Tusayan, when also Walt Douglas's Red Butte-based business was sold to rivals in Tucson. The Hudgin Flying Service, operated chiefly by Alfred Hudgin, displaced competition in the canyon air tour business.

1957–1967—The Hudgin brothers incorporated a new incarnation of Grand Canyon Airlines, which remains in the tour business, now headquartered in Boulder City, Nevada. It was in this year that the first plans were made by the State of Arizona to build an airport near Grand Canyon, one of fifty such projects across the state. Delayed by funding problems and a labor strike, the Grand Canyon National Park Airport, begun in 1964, finally opened in 1966. Already several large aviation companies vied for competing air tour services out of the new airport and for incoming flight service for visitors to the area. Grand Canyon Airlines closed its Red Butte airfield and moved to the new airport.

1967—Scenic Airlines, another tour business still in operation, began its aerial sightseeing business chiefly through international advertising, though redirecting its visitors to its operations base in Las Vegas, Nevada.

1974—The first concerted concerns regarding aircraft noise from overflights were included in legislation that proposed expanding the boundaries of Grand Canyon National Park.

1976–1981—More than 40 air tour companies offered sightseeing flights to Grand Canyon.

¹⁵ The Kolb Brothers photo archive in the Special Collections and Archives, Cline Library, Northern Arizona University, include a an undated spliced film that contains Scenic Airlines ground and aerial footage; see online at <https://cdm16748.contentdm.oclc.org/digital/collection/cpa/id/103506/rec/28>, accessed May 3, 2025).

1986—A midair collision in the canyon of a sightseeing helicopter with a fixed-wing sightseeing plane, with 25 fatalities, significantly brought to public and administration attention the pressing need for tighter controls on overflights.

See [Part 3](#) herein for a comprehensive bibliographical accounting of government administrative matters relating to Grand Canyon aviation.

There is far more—necessarily not accounted for herein—that relates to aviation at Grand Canyon that is interspersed through numerous publications over decades that are themselves not specifically about aviation; for example, an author’s brief reminiscence of witnessing a military flight low over the Colorado River that startled and amazed a group of rafters, or the often-retold account of an Air Force jet in western Grand Canyon that clipped the aerial tram cable connecting the Bat Cave guano operation to its south rim headhouse. Finding all these accounts of course would necessarily call for re-reading hundreds or even thousands of articles and books to hunt for such references. Perhaps future digital resources will soon allow that to be done, sensibly in context. In the meantime we must rely upon limited resources such as this one, or the intermittent recall of knowledgeable individuals.

[Following is an account, transcribed in its entirety, of the first multiple flights over and into the Grand Canyon, conducted by Lt. Alexander Pearson, U.S. Army Air Service, in June 1921. It apparently is a summary of an official Air Service report. Refer also to the extended footnote of further explanation. The article was not illustrated.]

Flight Through the Grand Canyon¹⁶

Lieut. Alexander Pearson, Air Service, in making his flight to the Grand Canyon of Arizona, had another interesting experience following his attempt to cover the New York to San Francisco transcontinental flight. It will be recalled that on this journey, while flying from El Paso to San Antonio his machine developed engine trouble and he was forced to come down in a canyon south of the Rio Grande river. His machine was subsequently recovered by an expedition sent into Mexico for that purpose; a new engine was installed and it was flown back to the Del Rio airdrome.

The flight over and in the Canyon was made between 9:00 and 10:00 a. m. on June 10th. Lieutenant Pearson states that at the beginning of this flight there was a slight east wind blowing and that it was very warm, the air being quite calm except for heat bumps. It was just as smooth over and in the canyon as outside except for a strip along each wall, where there was a very

¹⁶ *Aviation and Aircraft Journal*, Vol. 11, no. 9 (August 29, 1921), p. 255; with notes added here.

noticeable rough region, between a quarter and a half mile wide, caused by strong rising currents of air heated by the canyon walls. Lieutenant Pearson thought there would probably be a downward current of air in the middle of the canyon to replace that rising near the walls, but it was not noticeable. This was probably due to the fact that if there were such a downward current, its velocity would be not more than that of of [sic] the rising current at the canyon wall. This conclusion was arrived at by assuming that there was no longitudinal or up or down stream displacement of air in the canyon and that the region of rising air extended one-half mile back from the canyon walls. This would give a rising air stratum one mile wide, and as the average width of the canyon is 10 miles it would leave a downward column of air nine miles wide to replace the rising air. Its downward velocity should therefore average about one-ninth that of the rising air. Strong cross winds had the effect of greatly widening the belt of rising air on the side of the canyon opposite to that from which the wind was blowing, but did not change the column on the other side.

Lieutenant Pearson started for the Grand Canyon from Nogales, Arizona, on May 31st, making stops at Phoenix, Prescott, Ashford and Williams, and selecting landing fields at each of these places. He arrived at the Grand Canyon on June 4th and spent the day in conference with the Superintendent of Parks and in looking for possible landing fields.¹⁷ He states that no place

¹⁷ The annual *Report of the Director of the National Park Service* [Stephen T. Mather] to the Secretary of the Interior, (Government Printing Office, Washington, 1921) clarified (pp. 27-28):

"Recently the Army Air Service cooperated with our bureau in determining the feasibility of flying over the canyon and vicinity, as a doubt existed as to whether or not air currents would make the undertaking unusually hazardous. Lieut. Alexander Pearson, Air Service, left Nogales, Ariz. on May 31 by train, stopping at Phoenix, Prescott, Ashfork, and Williams to selected landing fields, and then proceeded to Grand Canyon, where he conferred with Supt. [Dewitt L.] Reaburn and investigated possible sites where a plane could land and take off. While several were found near the canyon which would have proved suitable after some clearing, he decided to make the base for his test flights at Williams. After several days at the canyon he left for Nogales, which he reached on June 8.

"The following day he began his flights, which lasted over a period of 14 days. [. . .]

"However, until the present element of risk is greatly reduced I can not bring myself to the conclusion that airplanes should be seriously regarded as a means of transportation for park visitors. The time may come when in some of the parks at least we may permit installation of flying facilities to accommodate the touring public, but the time is not yet here."

Later in his report Mather recapitulated with additional notes (p. 101):

"This leads me to comment on the possibilities of airplane communication between the North and South Rims. Unless some method presents itself which combines safety with speed, we must always depend on mules and trails for tourist transportation. Perhaps in no other park have suggestions for air service been as numerous or interesting as here, ranging from high-powered airplanes to dirigibles. [. . .]

"An interesting incident in connection with these official flights occurred when Mr. H. H. Bullen ["Hal" Bullen], of Denver, Colo., a young aviator interested in the commercial development of the airplane, arrived at the Grand Canyon in his plane at precisely the same time that Lieut. Pearson was flying over the canyon; in fact, their two planes, the only two in the State of Arizona at the time, came near to meeting in midair. Later, Mr.

closer than eleven miles from the Grand Canyon station was found that was not covered with timber. Fairly good emergency fields were found to the north, west and east of Anita and one near Coconio [*sic*], one-fourth of a mile east of Anita, which is one mile long and one-fourth of a mile wide, flat, and with good approaches from north, east and southwest. This field was covered with sage-brush 18 in. high and had prairie dog holes on it, but could be made suitable for landing at an expense of \$150.00 or less. Just to the northwest of Anita is a slight rise which is flat on top and on which an excellent field could be made, as a space of one-half mile square with approaches from any direction is available. It is level land without any prairie dog holes, but is covered with sage brush. The altitude of this tract is 6,100 ft. and it would only be necessary to drag it with railroad iron to put it in excellent shape. This was the most practicable field found in the vicinity of the canyon, as it is on the railroad, 15 miles airline from the Grand Canyon, and it would cost but little to put it in condition. The nearness to the railroad is an important item, as all supplies, even water, must be shipped in, and roads are none too good. Passengers to or from Grand Canyon could be carried to and from Anita by a railroad or auto in one-half hour at all seasons of the year.

Good emergency fields exist all the way between Williams and Anita and to the east as far as the San Francisco mountains and to the west for 30 miles between Anita and Grand Canyon.

Bullen flew in Lieut. Pearson's plane and Lieut. Pearson flew in Mr. Bullen's plane. Mr. Bullen, through his active cooperation, assisted materially in the successful flight demonstrations.

"The result of these tests [*sic*] flights seems to have substantiated the practicability of commercial flying across the canyon and in its vicinity under certain definite conditions. Before I can give my consent to the installation of such transcanyon service, however, I feel that careful consideration must be given to a number of important administrative details in which the element of safety to the passengers must be assured under any and all circumstances. At present I am not yet prepared to recommend the installation of such service."

H. H. Bullen was a former Army Air Service pilot who two years earlier had incorporated the Utah Airplane Company to promote aerial sightseeing in the West (Warren, "Aviation at Grand Canyon," p. 155). He arrived in Williams from Kanab, Utah, flying his Curtis Standard with a Kirkham 6 Curtiss motor ("Lieut. Pearson's flight to the Grand Canyon in Arizona," *Air Service News Letter* [U.S. Army Air Service, Information Group, Washington, D.C.], Vol. 5, no. 26 [July 13, 1921], pp. 3-4), thus Mather's notation of Bullen and Pearson having come "near to meeting in midair" could have been written dramatically. But it seems reasonable, too, that Bullen flew over the canyon en route, so he could have been flying at the same time as which Pearson was at the canyon. Note that Bullen was the first General Aviation pilot to fly at the Grand Canyon, a point apparently not specifically mentioned before. As recorded in a 1926 newspaper article, Bullen had long been involved with oil-claim investigations in the canyon country of Utah, during which time in 1921 he

"flew on to the Grand canyon, where he engaged in flying tests for the government with . . . Lieutenant Alexander Pearson, Jr. This was the first flying undertaken in the Grand canyon. [A mistaken claim in light of flights by others in 1919 and 1920.] It was followed by more geological reconnoissance in northern Arizona. The expedition ended at the point of the mountain near Salt Lake in July, 1921, when the plane, caught in a storm, crashed and burned. Bullen and his mechanic, L. B. Dutro, escaped uninjured." ("Air, Land, and Water Routes Used to Make Oil Reconnoissance. Utah's Roughest Terrain Yields Secrets to Intrepid Explorers," *Salt Lake Tribune*, January 17, 1926, p. 16).

On June 5th Lieutenant Pearson, in company with the Chief Ranger of the Grand Canyon National Park, went down in the Canyon to look over the plateau. The plateau is 3,750 ft. above sea level and while generally level, it is rough and full of hollows. Lieutenant Pearson states that a landing on any part of this plateau would almost certainly result in a crash.¹⁸ Two way landing fields of 400 or 500 yd. in length by 75 yd. in width could be built on this plateau at a number of places at a cost of about \$1,000 each, as the surface of the plateau is of decomposed rock and could be easily worked. No other level of the canyon is suitable for an emergency landing field.

On June 6th Lieut. Pearson started on his return trip to Nogales and arrived there June 8th. On the following day he flew to Williams, Ariz., which he used as a base because of the proximity of the field to town, and the availability of fuel gas and oil. It was also the closest field to Grand Canyon that could be used, as no funds were available to prepare fields closer.

On June 11th, the day following Lieut. Pearson's flight over the Grand Canyon, he left Williams at 8:25 a. m., flying by way of Flagstaff, San Francisco peaks, Little Colorado River, Painted Desert, Marble Canyon and Kaibab Plateau. There were few, if any, fields that could be landed in after leaving San Francisco Mountains, as it is rough, sandy desert country. The Kaibab plateau is a high rolling tract of land heavily covered with timber. There is one unique spot in the Plateau, called Big Park [DeMotte Park], which for some curious reason is bare. It is approximately one-half mile wide and 5 miles long, lying in a small valley running north and south. It is the only place on the plateau on which a landing could be made. Lieut. Pearson landed there at 10:20 a. m. He states that it is a very good field, and can be used without any preparation, if the machine can take off at this altitude—8,800 ft. He took off without any difficulty and flew in and around the canyon for half an hour. His experiences were similar to those of the previous day. He descended 3500 ft. below the south rim of the canyon and 4500 ft. below the north rim. No difficulty was experienced except that the motor became very hot, due to the hot air in the bottom of the canyon.

On June 15th Lieutenant Pearson made another trip to the canyon, taking off at 2:20 p. m. in a strong southwest wind blowing 40 m.p.h. The air was bumpy all the way to the canyon. He crossed over and back a number of times at altitudes of from 500 to 4,000 ft. above the rim, and found that there was no difference in roughness over the canyon and land at corresponding altitudes. He did not descend into the canyon for the reason that it is very unpleasant to fly in such close quarters during rough weather.

Still another trip to the canyon was made on June 17th, with experiences similar to those of preceding flights. On June 18th Mr. H. H. Bullen arrived at Williams from Kanab, Utah, flying a

¹⁸ In a year's time, general-aviation pilot Royal V. Thomas would land twice on a short landing strip that had been prepared near Plateau Point. Refer also to the covers of the present publication.

Curtiss Standard with 150 h.p. Kirkham 6 Curtiss motor. The weather was ideal—cool and no wind. Lieut. Pearson took off at 7:50 a. m. for the Grand Canyon and returned at 9:50 a. m. Moving pictures were made of this flight under authority of the Chief of Air Service. Flying conditions were like those of the first day and there were no bumps even at the canyon walls, as they had not had time to heat up this early in the morning.

In summarizing Lieut. Pearson's report, the Commanding Officer of flight "B" 12th Squadron, states that a total of 14 flights for a total of 22 h. and 5 min. were made above and in the vicinity of the canyon during a period of 14 days; 420 gal. of fuel and 50 qt. of oil being consumed. He believes that commercial flying across the Grand Canyon and its vicinity is feasible and practical, but recommends that a machine of at least a rate of climb equal to 400 ft. per minute at 7,000 ft. and a 17,000 ft. ceiling be required of the operating company in order to assure the safety of passengers and that no flying over the canyon be permitted at an altitude of less than 11,500 ft. above sea level or 3,500 ft. above the north rim unless a plateau emergency field is built [on the Tonto Plateau]; that if such a field is built with 400 yd. runway, flying for sight seeing purposes might be carried on with safety at 6,000 ft. above sea level or 1,000 ft. below the south rim provided the plane was piloted within gliding distance of the plateau field. Furthermore no field should be built within two miles of the rim of the canyon on account of the bumpy air conditions near the canyon walls which would tend to make take off's and landings difficult.

[Following is an account, transcribed in its entirety, of the Pearson flights from the viewpoint of J. E. Shirley, a Fred Harvey employee on the ground at Grand Canyon, although it is unclear how much of his report is first hand. He writes only of two days' flights, unless part of the account combines other days. The article was illustrated, but only by a Santa Fe promotional "Side View of the New Bridge Across the Colorado River in the Grand Cañon," which itself was replaced by a more stable suspension bridge in 1928.]

Aeroplaning in Grand Canyon¹⁹

A big stride was made toward solving the aeroplane possibilities of the Grand Cañon of Arizona when Lieutenant Pearson made a daring flight in his plane on June 10 down into the very depths of Grand Cañon.

About 9:00 a. m. he arrived above the point where the El Tovar hotel stands, flying at an elevation of possibly 11,000 feet above sea level, and about 4,000 feet above the hotel, and at this elevation he first crossed the cañon from the south rim to the north rim, a distance of thirteen miles.

¹⁹ J. E. Shirley, "Aeroplaning in Grand Canyon," *Santa Fe Magazine*, Vol. 15, no. 9 (August 1921), p. 36. (Note that "canyon" is spelled with a "y" only in the title but in the text as "cañon.")

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He is the first aviator to cross the cañon proper. He then flew back to the south rim at about 2,000 feet above the rim; after circling twice to get his bearings, he descended to within 1,000 feet of the rim and again crossed the cañon to the north rim, from which point he maneuvered his way down into the very depths of the cañon, flying 3,300 feet below the south rim and 4,300 feet below the north rim. He remained in the cañon for about twenty minutes, circling around like a big bird. He flew near the base of Buddha Temple, then descending still further down into the cañon, around the base of Isis Temple and Cheops' Pyramid until he reached a point on the north side of the Colorado River Gorge, at a height of about 1,500 feet above the level of the river. He continued to sail until he reached Bright Angel Cañon, where he turned from the river, flying up the west side of Bright Angel Cañon quite a distance, then circling around in the Grand Cañon proper, worked his way carefully up and out of the cañon above the north rim.

It was a wonderful sight to see the perfect control under which Lieutenant Pearson held his plane. If he was having any trouble with air pockets, the movement of the plane, as seen from the rim, failed to show it, and a throng of interested people watched him as he soared down into the cañon and out again.

On his last trip across to the south rim he flew about 500 feet above the El Tovar hotel, where the throng of people greeted him by waving their approval and congratulations for his daring but successful flight.

The nerve and daring of the lieutenant is to be highly commended, as the feat which he successfully accomplished had heretofore been considered almost impossible.

On June 18 Lieutenant Pearson again flew down into the cañon for about forty minutes. He had with him a cameraman from the Fox Film Company. A cameraman was also stationed on the rim at Yavapai Point. Some good motion pictures of both the plane and the cañon were obtained and will be shown with the Fox News Service all over the world.

J. E. Shirley,
Transportation Department, Grand Cañon



PART 1

TOPICAL BIBLIOGRAPHY

1

FIRST FLIGHTS

THE FIRST FLIGHTS at Grand Canyon are placed in perspective in the [Introduction](#). While an airplane—a military craft—first flew over and into the canyon on February 24, 1919, more frequent military and occasional general aviation flights took place in the early 1920s. These attracted the attention of aviation entrepreneurs and businesses, beginning, fitfully at first, the aerial-tourist business that thrives today. Initially, public attention to Grand Canyon aviation was through the lenses of commercial newsreels shown in theaters and through occasional, often brief and factually mixed, notes in a variety of magazines—and not without sensationalist rewrites about the life-risking pilots and cameramen. A Fox News newsreel photographer Lewis Lewyn flew with Lt. Charles Rugh during the series of flights commanded by Lt. Ralph Olaf Searle in 1919. In 1921, Fox News’s Blaine Walker flew on one flight with Lt. Alexander Pearson. Fox Studios even went so far as to award Walker a gold medal for his film at a ceremony hosted by silent-film star Tom Mix, which film not coincidentally was worked into *Sky High*, starring Mix. In 1922, Fox also sent another newsreel photographer, Valentine Anthony Ugrin, to fly with barnstormer Royal Vearl Thomas to make the second (though advertised as the first) landing inside the canyon (the first landing had been ten days earlier with Thomas carrying photographer Ellsworth L. Kolb). (See the covers of the present publication regarding the Thomas landings.)

Charles Lindbergh also eventually descended into the canyon, in 1928, which was news in itself if only because it was Lindbergh! Readers eager to read anything about the pioneer international aviator were informed even that he had left a note on his plane indicating that he had gone to lunch during his flights in northern Arizona. Lindbergh Hill (8934 ft elevation), within Grand Canyon National Park on the Kaibab Plateau, was later named for him. (As a civilian aviator, Lindbergh’s flights are also noted in the [“General Aviation”](#) section herein.)

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Anonymous

- 1917 By air to national parks, Wright says. Makes this prediction at Motoring Day meeting at Washington. *The New York Times*, (January 14): Section 10, p. 4.
- Orville Wright's presentation includes a remark on viewing the Grand Canyon from the air. For clarification in context, see instead Wright (1917).
- 1919 Army aviators fly over Grand Canyon 1,400 feet up. *In*: The News of the Week [SECTION]. *Aerial Age Weekly*, 8(26) (March 10): 1344.
- "Kingman, Arizona.—What was said here to-day to have been the first aeroplane flight over the Grand Canyon of the Colorado was made by Lieuts. R. O. Searles [sic] and E. D. Jones in a De Haviland [sic] bombing plane. They flew from Kingman to the canyon and return after following its course for many miles. The flight was made at an altitude of about 14,000 feet and lasted two hours." [ENTIRE ITEM]
- 1919 Flight over Grand Canyon. *Flying*, 8(3) (April): 283.
- Kingman, Ariz., February 25.—What is said to have been the first aeroplane flight over the Grand Canyon of Colorado [sic] was made on February 27 [sic] by Lieutenants R. O. Searles [sic] and E. D. Jones. They used a De Haviland [sic] bombing plane and were in the air two hours. They flew from Kingman to the canyon and return after following its course for many miles. The flight was made at an altitude of about 14,000 feet." [ENTIRE ITEM]
- 1919 [Lt. Chase (Charles) V. Rugh flight.] *In*: Along the Trail [SECTION]. *Santa Fe Magazine*, 13(5) (April): 78.
- "Lieut. Chase [sic] V. Rugh of the gulf-to-the-Pacific aero squadron on February 25 performed the hazardous feat of flying inside the walls of the Grand Cañon of Arizona. The day was calm and no dangerous air currents were encountered. He did not observe any emergency landing places in the cañon, he reported." (ENTIRE ITEM)
- 1919 Plane in Grand Canyon. *The Golden West* (Los Angeles), 1(1) (April 1): 19.
- "Kingman, Feb. 25.—The first airplane flight into Grand Canyon was made this afternoon when Lieut. Chas. [sic] Rugh and Louis Lewyn, piloting a De Haviland [sic] Liberty motor army plane, explored air currents within the walls two thousand feet from the rim along a stretch north of the Hualapai Indian reservation. [¶] Wonderful moving pictures were secured by Lewyn. Uncharted places in the canyon were recorded by the camera." (ENTIRE ITEM)
- 1919 End 3,300-mile flight from Texas to Pacific. *The New York Times*, (May 28): 3.
- Refers to the Ellington Field "Gulf-to-Pacific" squadron of DeHavilland Four planes under command of 1st Lt. R. O. Searle; accompanying him were Lts. E. D. Jones, Rick Nelson, Charles Rugh, Howard Birkett, and E. L. Bilheimer, Sgt. W. E. Cain, and motion picture photographer Louis Lewyn.
- "Lieutenants Searle and Jones made the first trip ever attempted across the Grand Canyon in an airplane. They crossed the big chasm at the junction of Diamond Creek and the Colorado River Canon [sic], which at this point, is about 2,000 feet across, with a sheer drop of 7,000 feet. They flew at an altitude of 13,000 feet, and were bothered by terrific bumps and cross currents of air. The ship was knocked around and buffeted so that it was hard to control it. [¶] Lieutenant Rugh and Lewyn, the motion-picture man, actually flew down into the canyon. They got down to 600 feet below the side of the canyon."
- 1919 Aviation. *In*: General News Department. *Railway Age*, 66(22) (May 30): 1336.
- Includes note: "On May 27, four airplanes of the War Department completed a cross country flight of 3,300 miles from Texas to the Pacific Coast and return. These fliers, for considerable

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distances, made speeds of 140 miles an hour and higher. Two of the airplanes flew over the Grand Canyon. One of these flew at an altitude of 13,000 ft., while the other flew down into the Canyon, about 600 ft. below the edge." (ENTIRE NOTE)

- 1919 End 3,300-mile flight from Texas to Pacific. *In*: The News of the Week [SECTION]. *Aerial Age Weekly*, 9(13) (June 9): 627-628.
- Includes notes of Lts. R. O. Searle and E. D. Jones flight over Grand Canyon at Diamond Creek; and Lt. Charles Rugh and Mr. Louis Lewyn, motion picture photographer, flight into canyon.
- 1920 [Note of Grand Canyon-flight crew members.] *In*: Kelly Field Notes [SECTION]. *U.S. Air Service*, 3(6) (July): 30.
- "Sgt. 1. Cl. Albert T. Vierra has been ordered to Mitchel Field, Long Island, N. Y., for duty in connection with the Seattle-Alaska Flight. Lieut. Eric Nelson, who has already reported there for duty with this flight, and Sergeant Vierra were members of the flight which flew from Ellington Field last year en route to the Pacific coast, through the Grand Canyon and returning two months later." (ENTIRE ITEM)
- 1921 Air route for the Grand Canyon. *The New York Times*, (May 29): 11.
- "The possibility of opening up an aerial passenger service through the Grand Canyon of Colorado [*sic*] is being planned by the War Department, it was learned here [San Antonio, Texas] today. Lieutenant Alexander Pearson Jr., transcontinental flier, has been ordered to make an investigation to find landing fields and to ascertain air conditions at various times of the day." (ENTIRE NOTE)
- 1921 Lt. A. Pearson enters gorge, lands and takes off again to study air currents. *The New York Times*, (June 13): Section 3, p. 2.
- The editor's title is a misleading summary. Pearson did not land inside the canyon but instead landed on the Kaibab Plateau while investigating potential landing sites in the area.
- 1921 Aviator explores the Grand Canyon. *In*: The News of the Week [SECTION]. *Aerial Age Weekly*, 13(16) (June 27): 340.
- "Williams, Ariz.—Lieutenant Alexander Pearson, army flier, flew into the Grand Canyon June 11, landed and took off again during an exploration of the canyon, to study its air currents for the Department of the Interior and to locate possible landing fields. [¶] 'In spite of the fact that the upper part of the Grand Canyon is thirteen miles from rim to rim and the lower gorge is eight miles wide,' said Pearson in describing his experiences, 'I felt cramped for room when I was descending into the chasm. I seemed every moment to be flying right slap into some cliff.' [¶] Pearson also flew north of the canyon seeking a landing field. He found it in what is known as Big Park [DeMotte Park], the only clear space among the great pine forests that clothe the Kaibab Plateau. Big Park is at an altitude of more than 9,000 feet." [ENTIRE ITEM]
- 1921 [Lt. Alexander Pearson flight into Grand Canyon.] *In*: Along the Trail [SECTION]. *Santa Fe Magazine*, 15(8) (July): 71.
- 1921 [Lt. Alexander Pearson flight into Grand Canyon.] *Rock Island Magazine* (Rock Island Lines, Chicago), 16(7) (July): 31.
- "Lieutenant Alexander Pearson, army flier, on June 12, flew into the Grand Canyon, landed and took out again during an exploration of the canyon, to study its air currents for the Department of the Interior and to locate possible landing fields." (ENTIRE ITEM)
- 1921 Aviator explores the Grand Canyon. *Flying*, 10(6) (July): 216.
- [Text is identical to that which appeared in *Aerial Age Weekly* (June 27); see above.]

FIRST FLIGHTS

- 1921 Aviator explores the Grand Canyon. *Scientific American*, 125(1) (July 2): 3.
 "An army flier, Lieut. Pearson, has explored the Grand Canyon with a view to studying the air currents. His experiences are interesting. He says: 'In spite of the fact that the upper part of the Grand Canyon is thirteen miles from rim to rim and the lower gorge is eight miles wide, I felt cramped for room when I was descending into the chasm. I seemed every moment to be flying right slap into some cliff.'" [ENTIRE ITEM]
- 1921 Lieut. Pearson's flight to the Grand Canyon in Arizona. *Air Service News Letter* (U.S. Army Air Service, Information Group, Washington, D.C.), 5(26) (July 13): 3-4.
- 1921 Flight through the Grand Canyon. *Aviation and Aircraft Journal*, 11(9) (August 29): 255.
 Separate flights by Lt. Alexander Pearson and H. H. Bullen. A far more detailed, full page, account than other reports. **Reproduced on pp. 7-11 herein, with further explanatory notes).**
- 1921 Riding the Grand Canon by airplane. *Popular Mechanics Magazine*, 36(3) (September): 370-371. [Contents page (p. 3) gives title as "Grand Cañon Visited via Airplane".]
 Includes landing on Kaibab Plateau. Flights by Lt. Alexander Pearson.
- 1921 Blaine Walker awarded gold medal for daring. *Moving Picture World* (New York), (September 10): 161.
 "For his enterprise and daring in obtaining the first motion pictures of the Grand Canyon of the Colorado taken from an aeroplane, Blaine Walker was awarded a gold medal by Fox Film Corporation. The presentation was made at the West Coast studios, Tom Mix officiating. [¶]The flight over the Canyon was a perilous performance, as numerous air pockets were encountered. The conduct of the plane on plunging into these is revealed, it is said, in the news reel which resulted from the exploit." (ENTIRE ITEM)
- 1921 Test flying at night. **In:** Naval and Military Aeronautics [SECTION]. *Aerial Age Weekly*, 14(14) (December 12): 327.
 Lt. Alexander Pearson, Jr., and Sgt. Jungling in Prescott, Arizona, are referred to their "doing work in the Grand Canyon". The title pertains to their orders to fly to Nogales, Arizona, immediately with a night landing there without lights. No other mention of Grand Canyon.
- 1922 Alights in Grand Canyon. Lieut. Thomas makes first airplane landing, 3,000 feet below the rim. *The New York Times*, (August 10): 13.
 "The first airplane landing in the Grand Canyon of Arizona was made today [August 9 but actually August 8] by Lieutenant R. B. [sic] Thomas, Officers' Reserve Corps, of Kansas, at Turtle Head, Ponto [sic] Plateau, near El Tovar, the National Park Service announced. The landing place was 3,000 feet below the rim of the canyon." (ENTIRE NOTE) [See also front cover of the present publication.]
- [1928] Lindy hops off alone to canyon; finds Williams field too small for takeoff in loaded plane. **In:** Yuma Aviation History [SECTION] (contributed by Jim Gillaspie). *Newsletter Without A Name* (Experimental Aircraft Association, Local Chapter 590, Yuma, Arizona), (March, 2002): [2-3].
 Regarding Charles Lindbergh. From the Yuma *Morning Sun*, April 15, 1928.
- 1928 Searchers for Lindbergh find new plane in Arizona with note, "Gone to Lunch". *The New York Times*, (April 15): 9.
 News item from Williams, Arizona. Appended is a separate news item filed from Grand Canyon, noting the Charles A. Lindbergh stop at Grand Canyon landing field (i.e. Red Butte airfield).

FIRST FLIGHTS

Aeronautical Chamber of Commerce of America, Inc.

- 1922 *Aircraft year book : 1922*. New York: Aeronautical Chamber of Commerce, Inc., 251 pp. [Under "Chronology of Aeronautics", see (p. 234): "June 10; Lt. Alex. Pearson, U. S. A. S. makes aerial survey of Grand Canyon of Arizona." (ENTIRE NOTE)
U.S. Army Air Service.
- 1929 *Aircraft year book : 1929*. New York: Aeronautical Chamber of Commerce, Inc., 484 pp.
See in Chapter 5, "Private Flying": "Lindbergh Travels Only in the Air", which includes note (p. 54) that ". . . he explored the Grand Canyon from the air, dropping down into the gorge, 4,000 feet below the top of the walls." (ENTIRE NOTE) [Charles Lindbergh.]

Ahmed, Ameema

- 2020 What goes up must come down. They're not household names like Earhart and Lindbergh, but 99 years ago, Lieutenant Alexander Pearson Jr. and Sergeant Arthur Juengling made history when they flew their De Havilland DH-4 biplane over the Grand Canyon. Their mission was to study weather patterns, look for possible landing areas and prove the bloodthirsty bystanders wrong. (Photographs courtesy of Stephen Schmidt.) *Arizona Highways*, 96(1) (January): 36-39.

B., C. F.

- 1922 Atmospheric turbulence over the Grand Canyon. *American Meteorological Society, Bulletin*, 8(7/8) (July/August): 107.
Regarding the flights of Lt. Alexander Pearson over and into Grand Canyon. Credited to *Aviation*, August 29 (*i.e.*, Anonymous, 1922).

Birchfield, C. J.

- 1922 First airplane landing at bottom of Grand Canon; ascent from lower depths of gorge also accomplished. *Santa Fe Magazine*, 16(11) (October), cover, frontispiece, 17-20.
Royal D. (*sic*, V.) Thomas, pilot, with cinematographer Anthony Ugren (*sic*, Ugrin).

Brooks, Charles, et al.

- 1919 Effect of winds and other weather conditions on the flight of airplanes. *Monthly Weather Review*, 47(8) (August): 523-532. ("W.B. No. 693. Closed Oct. 4, 1919. Issued Nov. 3, 1919.")
See p. 527, references to flights of Lt. R. O. Searles at Grand Canyon in February 1919, with brief technical notes on atmospherics.
- 1920 "Bumpiness" in flying; effects of winds and other weather conditions on the flight of airplanes. *Scientific American Monthly*, 1(2) (February): 126-130.
"Abstracted from the *Monthly Weather Review*" (see Brooks, 1919). See p. 127, references to flights of Lt. R. O. Searles at Grand Canyon in February 1919, with brief technical notes on atmospherics.

Colyer, W. T.

- 1919 Aviation and fire protection. *National Fire Protection Association, Quarterly*, 13(2) (October): 114-120.
In anticipation of aerial development. See p. 119: "Probably hotel or club accommodations will not be long in taking their place as necessary adjuncts to airdromes, particularly such as may be established among the Rocky Mountains or near the Grand Canyon in Arizona—to quote likely spots.

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It is fairly safe to predict that, unless full weight is given to considerations of fire prevention and protection when such airdromes are planned, a number of serious fires will occur on these properties.”
(ENTIRE NOTE)

David, Evan J.

- 1919 Aerial Transportation [SECTION]. *Flying*, 8(3) (April): 262-. [This section title is indicated as the inaugural appearance of a “permanent department of Flying”.]
 See “Flight over Grand Canyon”, p. 283; Lieutenants R. O. Searles [sic] and E. D. Jones.

Evarts, Hal G.

- 1923 Desert playgrounds. *Saturday Evening Post*, 195(34) (February 17): 7, 89-90, 92, 97-98.
 Regarding a trip to the Zion country. See p. 90: “Chance Parry, one of our party . . . piloted one of the only two planes that have ever negotiated the Grand Cañon. He dipped into that vast gorge and winged his way through its writing chasms for thirty-five miles, after cruising about for half an hour among the domes under the west rim of Zion.”

Folger, R. C.

- 1922 Airplane lands in Grand Cañon; treacherous air currents spectacularly negotiated by former Army airman and motion-picture operator—Indians gather to witness feat. *Popular Mechanics Magazine*, 38(6) (December): cover, 838-840.
 Royal D. Thomas and Anthony Ungren (sic, Royal V. Thomas and Anthony Ugrin). Legend on cover illustration: “First Landing in Grand Cañon”. [This was the second landing, ten days after the first with Ellsworth Kolb; see the covers of the present volume.]

Gaylord, A.

- 1922 Into the Grand Canyon, and out again, by airplane. *The Literary Digest*, 75(1) (October 7): 63-64, 66.
 Royal D. [sic] Thomas flight. Reprinted from *Kansas City Star*, here with editor’s introductory paragraph and interjection (to abridge the original?).
1981 1922: Into the Grand Canyon, and out again, by airplane. *In*: Schullery, Paul (ed.), *The Grand Canyon: early impressions*. Boulder, Colorado: Colorado Associated University Press, pp. 167-171.
 From Gaylord (1922).

Hartney, H. E.

- 1921 The Air Service and civilian aeronautics. *Aviation and Aircraft Journal*, 10(10) (March 7): 307-309.
 See in “Airways Section”, “Grand Canyon Development”, pp. 308-309.

Leiser, Gary

- 1999 Flight over the Grand Canyon. *Travis Air Museum News* (Travis Air Force Historical Society, Travis Air Force Base, California), 17(4): 10.
 Regarding Lt. Ralph O. Searle, who was the first to fly over Grand Canyon in February, 1919.

FIRST FLIGHTS

Leslie, Arthur

- 1923 Dare-devils of the magic box; every day the news cameraman takes his life in one hand and his camera in the other and sees what fate has up her sleeve. *Illustrated World*, 39(1) (March): 74-77, 148.

See p. 76: "The same element of danger [unpredictable air currents] existed when a cameraman flew over the Grand Canon grinding away. The currents between the narrow walls created atmospheric whirlpools which threatened to dash the pilot and cameraman to instant death." (ENTIRE NOTE) No illustration pertinent to Grand Canyon.

Schreck, Christopher

- 2023 The Ralph O. Searles [*sic*] Collection. *The Friends of the Air Force Academy Library Newsletter* (U.S. Air Force Academy, Colorado), (Spring): [2].

Remarks on the "rediscovery" of the Ralph O. Searle collection that had been donated to the library by Michael W. Bennett in 1981. Pertains to the 1919 cross-country Army Air Service mission, round trip from Houston, Texas, to San Diego, commanded by Searle. Eight men in four De Havilland DH-4 airplanes were "to make observations for a proposed transcontinental aerial mail route". The collection contains "a 1919 photo album from this mission, which includes the earliest known arial [*sic*] photographs of Houston, the Grand Canyon, and other cities and towns along their route. The Grand Canyon crossing, the first ever by airplane, included the first recorded negative-altitude flight. One of the pilots flew 600 feet below the canyon rim, fighting erratic winds and unpredictable updrafts along the way. This mission was also part of a Hollywood publicity stunt to sell war bonds."

Shirley, J. E.

- 1921 Aeroplaning in Grand Canyon. *Santa Fe Magazine*, 15(9) (August): 36.

Lt. Alexander Pearson. This account was written from the viewpoint of Shirley, who was with the "Transportation Department, Grand Cañon" (*i.e.*, Fred Harvey Transportation Dept., in the employ of the Santa Fe Railway). *Reproduced on pp. 11-12 herein*.

- 1921 Aeroplaning in Grand Canyon. *The Hotel Monthly* (Chicago), 29 (September): 65.

Lt. Alexander Pearson. Repeated from *Santa Fe Magazine*.

Smith, CW (Bill)

- 2015 Missing aviator rides into Sanderson; was given up for lost. *Terrell County Memorial Museum News* (Sanderson, Texas), (February): [unpaginated].

Title reproduced in facsimile from a newspaper. Regarding Lt. Alexander Pearson, Jr., Army pilot who had gone missing in Las Vegas de los Ladrones, Mexico. Article briefly notes his work in aeronautical investigations at Grand Canyon in 1922.

Suran, William C. [Suran, Bill]

- 1992 The first flight into Grand Canyon. *Grand Canyon Pioneers Society, Newsletter*, 3(5): 5.

Walker, Helen Louise

- 1929 The neck-riskers. Day in and day out, news-reel cameramen have a daredevil of a time. *Motion Picture Classic* (Chicago), 28(12) (February): 18-19, 84.

Includes: "Blaine Walker, of Fox, made the first pictures from the air of the Grand Canyon in Arizona. [¶] The pilot he took with him from San Francisco was a good pilot—at sea level. But he found it almost impossible to handle a plane at the high altitude of the Canyon. So Walker was obliged to dismiss him. Meanwhile an army pilot had arrived, unannounced, on the Canyon rim.

FIRST FLIGHTS

Walker tried to secure his services to make the picture but he was unable to get a permit from army officials to ride with him. [¶] Finally, however, he did manage to get himself and his camera into the plane with the mechanic at the controls. It was a windy day and flying conditions were bad—but Walker got the first pictures ever made from the air—below the rim of the Canyon, between precipitous and in many places, very narrow walls of the gorge. [¶] That was an outstanding scoop for Fox.” (ENTIRE ITEM) (Grand Canyon scenes not illustrated in this item.)

NOTE: Walker was not the first photographer. The first newsreel was made by Fox News’s Lewis Lewyn, who flew with Lt. Charles Rugh during the series of flights commanded by Lt. Ralph Olaf Searle in 1919. The first still photographs of the canyon from the air also were taken during the Searle flights; these were Army Air Service productions.

Warren, Ronald L. [Warren, Ron]

- 1994 Who was 1st aviator to do what at Canyon? *In:* Grand Canyon National Park; celebrating 75th anniversary. *Williams-Grand Canyon News* [special supplement, Grand Canyon 75th Anniversary Edition], p. 20.
- 1994 Black cats and superstitions; Ellington Field Gulf to Pacific flight, February 24-26, 1919. *Grand Canyon Pioneers Society, Newsletter*, 5(2): 3-4.
- 1994 The second landing. *Grand Canyon Pioneers Society, Newsletter*, 5(3): 7.

Wright, Orville

- 1917 Air routes to the national parks. *In: Proceedings of the National Parks Conference : held in the auditorium of the new National Museum, Washington, D.C., January 2, 3, 4, 5, and 6, 1917.* Washington, D.C.: U.S. Government Printing Office, pp. 281-283.

See p. 283: “No matter by what route we arrive, however, our national parks must be viewed from the ground to be fully appreciated. The giant sequoia, when viewed from on high, will be no more impressive than the modest shrub, and the Grand Canyon of the Colorado will flatten out almost to a plain. Though the shining river will be seen winding its tortuous way in a mass of variegated colors, the grandeur of the gorge in size and sculpture will be gone.” (ENTIRE NOTE)



2

TOURISM BUSINESSES AND TOURISTS' EXPERIENCES

AIR TOURS over the Grand Canyon were anticipated even before the first government flights. W. T. Colyer, writing in the *National Fire Protection Association Quarterly* in 1919, lobbied for the “full weight” of considerations given to “fire prevention and protection” when hotels, clubs, and aerodromes may be planned for the Grand Canyon and other locations. Even aviation pioneer Orville Wright had weighed in during a talk to a national parks conference in Washington, D.C. in 1917, where he foresaw that tourists to the national parks may arrive by air. But as for sightseeing tours, he was not as enthusiastic. “No matter by what route we arrive,” he said, “our national parks must be viewed from the ground to be fully appreciated. The giant sequoia, when viewed from on high, will be no more impressive than the modest shrub, and the Grand Canyon of the Colorado will flatten out almost to a plain. Though the shining river will be seen winding its tortuous way in a mass of variegated colors, the grandeur of the gorge in size and sculpture will be gone.” If only he could have seen a half century into the future when began decades of administrative angst that would come of (first) unrestrained (then) regulated air tours over (and into) the Grand Canyon (see [Part 3](#) herein). Nor could he have imagined the administrative revolution in the control of air traffic that followed the catastrophic midair collision of two commercial airliners over the Grand Canyon in 1956, that may have been sightseeing for the benefit of their passengers, in which 128 people died (see [Part 2](#) herein).

TOURISM

Items with an asterisk (*) are accounts of, or personal remarks on, air tour experiences.

Anonymous

- 1903 Aërial photography. *The Photo-Miniature*, 5 (July) (52): 145-173, illustrations. [Unsigned, written in the first person, possibly by the editor, John A. Tennant and with contributions of imagery from balloon work of W. N. Jennings.]
- See p. 147: ". . . although much is here said about photographing from high buildings, the instructions apply with equal profit to photographing from any natural eminence, whether it be . . . the Grand Cañon of the Colorado The mention of these famous places of pilgrimage whispers of the pictorial possibilities of the field, despite its close kinship with topography and the making of maps." (Before the Wright brothers this refers to balloon ascensions or possibly dirigible flights, but still it looks ahead to seeing the Grand Canyon from above! Even so, Orville Wright had a less-than-enthusiastic notion of viewing the canyon from the air [see Wright, 1917].)
- 1918 [Miscellaneous notes.] *The Hotel Monthly* (Chicago), 26 (September): 37.
- Includes: "The future 'greatest sight in the world' will be a bird's-eye view of the Grand Canyon of Colorado [*sic*] in a ten-minute flight from rim to rim of the canyon."
- 1921 Grand Canyon development. *Air Service News Letter* (U.S. Army Air Service, Information Division, Washington, D.C.), 5(4) (January 28): 4.
- Secretary of the Interior requests Secretary of War for "airplane co-operation in the Grand Canyon, for geological work and for an estimate as to whether or not commercial planes might operate in the Canyon successfully for carrying passengers and viewing the world-famed wonders of the Canyon from the air in this manner."
- 1921 Airplanes may be used to tour Grand Cañon. *Popular Mechanics Magazine*, 35(6) (June): 814.
- 1925 Santa Fe plans airplane trips over Grand Canyon. *San Francisco Business* (San Francisco Chamber of Commerce), 10(8) (February 20): 11.
- "Passengers traveling on the California Limited and other transcontinental trains of the Santa Fe Company will soon be given the thrill of being picked up at the station on the main line in Arizona, carried over the Grand Canyon in an airplane and returned in time to rejoin their train, according to an announcement just made by the company." Eastbound passengers will take flights from Kingman and rejoin the train in Williams, Flagstaff or Winslow.
- 1936 Air view of the Grand Canyon. *The New York Times*, (September 13): Section 11, p. 7.
- Notes air flights from Boulder City, Nevada, to "El Tovar", construction of airfield near Pearce Ferry, and boat tours into lower Grand Canyon.
- 1937 20-year contract for Grand Canyon; G. E. Ruckstell, pioneer airline operator over scenic area, gets big concessions. *American Aviation*, 1(6) (August 15): 10.
- Grand Canyon-Boulder Dam Tours, Inc., includes Grand Canyon Airlines; concession under U.S. National Park Service.
- 1937 Grand Canyon tours; agreement reached between TWA and Grand Canyon Airlines. *American Aviation*, 1(10) (October 15): 15.
- 1937 Stop scheduled GCA operations; Ruckstell announces end of scenic run Oct. 18 but charter service to continue. *American Aviation*, 1(11) (November 1): 15.
- Grand Canyon Airlines.

TOURISM

- 1937 Sells 4 Fords; Ruckstell disposes of transports to TACA in Honduras. *American Aviation*, 1(13) (December 1): 3.
Grand Canyon-Boulder Dam Tours, Inc. sells four Ford tri-motors to Transportes Aeros Centro Americanos, Ltd. Scheduled airline operations between Boulder City, Nevada, and Grand Canyon ceased October 18; scenic tours continue.
- 1965* Reise durch die USA. III. Arizona und Utah. [*transl.* 'Travel through the USA. III. Arizona and Utah.'] *Schweizerische Gehörlosen-Zeitung* (Schweizerischen Gehörlosenbundes), 59(21) (November 1): 290-293. [*In German.*]
Visit to Grand Canyon includes an air tour.
- 1989 Scenic tours. *Air Progress*, 51 (March): 21.
- 1990 Parker Van Dandt, 96, aviator and developer. *The New York Times*, (June 7): D23.
Obituary. Includes note that Van Dandt established Scenic Airways (Scenic Airlines).
- 1991* 'Merica. *Eco'r Wyddfa* (Caernarfon, Wales), (172) (October): 6. [*In Welsh.*]
Includes note of a flight over Grand Canyon, where "Myra" cried at the view. Item signed only, "Selwyn".
- 1999 Sulle ali delle aquile. [*transl.* 'On the wings of eagles.'] *MCmicrocomputer* (Roma), 19(7/8): 85-88. [*In Italian.*]
Describes and illustrates screen shots of websites offering helicopter tours, as part of this issue's theme, "In vacanza con il Web" (*transl.* 'On holiday with the Web'). See pp. 87-88, regarding three websites (in English) for helicopter tours from Las Vegas, including Hoover Dam and what would become better known as Grand Canyon West on the Hualapai Indian Reservation.
- 2000 See famous aircraft at Planes of Fame. *In: Grand Canyon-Tusayan tourist guide : your guide to what's going on at Grand Canyon and Tusayan : fun at the canyon : Fall 2000*. Williams, Arizona: Williams-Grand Canyon News, p. 34.
Valle, Arizona.
- 2003 Canyon air-tour flights date back to '28. *In: Grand Canyon Tusayan guide : Fall 2003*. Williams, Arizona: Williams-Grand Canyon News, p. 12.
- 2003 Grand Canyon tour operator gets its first EC130. *Aviation Week and Space Technology*, 158(21): 22.
Eurocopter EC130 helicopter.
- 2004 AirStar takes travelers to new heights. *In: Grand Canyon Tusayan guide : Fall 2004*. Williams, Arizona: Williams-Grand Canyon News, p. 8.
AirStar Helicopters, Tusayan.
- 2005 The ultimate aerial lift! / Lo ultimo en elevacion! *In: Vertikal Conexpo : specialist guide for buyers and users of lifting equipment / guia especializada para compradores y usuarios de equipos de elevación : Las Vegas, USA, March 15-19*. Brighton, U.K.: Vertikal Press Ltd., p. 59. [*In English and Spanish.*]
Helicopter tours to Grand Canyon.
- 2005 Aviation Repair Specialist Award: Luis Garcia, Director of Maintenance, Papillon Airways, Inc., Grand Canyon, Arizona. *In: Helicopter Association International's 44th Annual "Salute To Excellence" awards*. *Rotor* (Spring): 38-39.

TOURISM

- 2005 Lawrence D. Bell Memorial Award: Mr. Elling Halvorson, Chairman, Papillon Grand Canyon Helicopters, Inc., Grand Canyon, Arizona. *In: Helicopter Association International's 44th Annual "Salute To Excellence" awards. Rotor (Spring): 43-44.*
- 2006 Papillon Grand Canyon Helicopters Honeywell LTS101 equipped AS350's achieve fleet milestone. *Turbine Topics (Soloy Aviation Solutions, Olympia, Washington), (3rd Quarter): [1].*
20,000 hours of operation over three years from Las Vegas, including air tours of Grand Canyon.
- 2008 Between the canyon and the clouds. *Hollenbeck Headlines (Hollenbeck Palms [retirement community], Los Angeles), (Winter): 4.*
Note of helicopter tour flight over Grand Canyon by Iola Kapuza and Edwina Talbott.
- 2008 [Vistaliner fact.] *In: Heard in the Pilots Lounge [SECTION]. Owner Pilot Advantage, (Winter): 2.*
Modified DeHavilland Twin Otter and Grand Canyon tours.
- 2008 A special review of the TZ15; the Grand Canyon by helicopter. *HWM (HardwareMAG) (Singapore), (March): 20, 22.*
Photo spread with Panasonic DMC-TZ15 digital camera. Helicopter trip from Las Vegas. Photos include one of Hoover Dam, and one mediocre photo of Grand Canyon.
- 2010* Competition No[.] 5: February 1. *Manhattan Focus (Manhattan Miniature Camera Club, New York), 49(5) (February): [1].*
Exhibition by Vicki Dolce. Includes note of her "currently working on a travelogue presentation titled 'Grand Canyon Caverns—Rim to river' which covers Old Rte. 66 and Grand Canyon West", and brief remark of having taken "a helicopter down to Canyon West and rafted the river for 5 hours with a Hualapai Indian guide. It was an amazing experience!" (ENTIRE NOTE)
- 2010* Member presentation, January 20, 2011; Wings Field, Philadelphia Aviation Country Club. *Pennsylvania Pilot (Aero Club of Pennsylvania, Blue Bell, Pennsylvania), 21(4) (Winter 2010/2011): 3.*
Announcement of presentation by Nancy Kyle, "a video and slides of her helicopter flight into the Grand Canyon in 2010"; "champagne lunch" flight with Maverick Tours.
- 2012* Beyond Las Vegas. *Luxury (Auckland, New Zealand), (20) (Autumn/Winter): 34-37.*
Text relates principally to a flight from Las Vegas to Grand Canyon West.
- 2014 Be inspired; take inspiration and head for unique resorts, uncharted territories and timelessly classic destinations. *Carrier Magazine (Cheadle, Cheshire, United Kingdom), (5) (Autumn): 10-11.*
See p. 10, "Maverick Helicopters; Fly Through the Grand Canyon".
- 2017* Z letalom nad Grand Canyon. [*transl. 'By plane over the Grand Canyon.'*] *Motosi (Ljubljana), (February/March): 78-79. [In Slovenian.]*
- 2017 Papillon Grand Canyon Helicopters launches new tours showcasing Grand Canyon luxury dining experience. *In: Aviator Bulletins [SECTION]. Aero Crew News (Atlanta, Georgia), (October): 14.* [Date in running footer on this page reads in error "September 2017".]
Grand Canyon West, Hualapai Indian Reservation.

- 2019 Pilot, woman . . . so what? Three pilots from different countries tell their story about being a female pilot in a man's industry. *Rotor* (Airbus Helicopters), (117) (October/November): 28-29. [Ellipsis is part of title.]

Two states of this article seen: *State 1*, full-length photos of three women, p. 28, texts on p. 29, no mention of Grand Canyon. *State 2*, variant texts with thumbnail photos on both pages; see "Liss Amdal" (p. 28), notes having "moved to the Grand Canyon and turbine helicopters (AS350) for a season" (ENTIRE NOTE).

- [2021] Four things; helicopter flights that are worth the price. *Travel and Cruise Weekly* (Parkside, South Australia), (042): 16-17. [Issue not dated; another source online indicates issue no. 042 is dated **1 March 2021**.]

See "Grand Canyon" (p. 17), which is illustrated with a photo of Horseshoe Bend, Glen Canyon.

- 2022* What's new with Taren. *Young At Heart Newsletter* (Ripples Leisure Centre, Penrith, New South Wales, Australia), (Spring): [13].

Item signed only "Taren". Regarding a trip to the U.S.; notes, "We did a helicopter tour [from Las Vegas] of the Grand Canyon where we landed in the canyon and had a champagne picnic. The views were breathtaking. It was an experience I will keep with me for a long time." Includes photo.

Aeronautical Chamber of Commerce of America, Inc.

- 1937 *The aircraft year book for 1937*. (Howard Mingos, ed.) New York: Aeronautical Chamber of Commerce, Inc., 526 pp.

See p. 184, brief remarks on United Airlines' "hook-up with Western Air Express and Grand Canyon Airlines for short air tours over Boulder Dam and the Grand Canyon. United found these major attractions were popular not only with vacationists but also with persons traveling from the East to the Pacific Coast on business, adding a few hours to their trip to include . . . the Grand Canyon."

Alby [Doughty, Bruce]

- 2013* Route 66. *Such Is Life* (Kelly Country Albury Hog Chapter 6595, Albury, New South Wales, Australia), (February): [6]. [This issue omitted issue number and newsletter date; data obtained from URL of this document on website.]

Notes, after Las Vegas, "It was then onto [sic] Hoover Dam and then the Grand Canyon, in a plane, well worth the cost." (ENTIRE NOTE)

Asmukovich, I. V. [Асмукович, І. В.]

- 2015 Вербальна об'єктивація концепту flight/авіапереліт (на матеріалі Англомовних рекламних слоганів авіакомпаній). *Національного університету «Острозька академія», Наукові записки* (Серія «Філологічна»), (51): 150-153. [In Ukrainian, with abstracts also in Russian and English; the use of mixed Ukrainian and English, thus.]

Citation in transliteration: Verbal'na ob'yektivatsiya kontseptu flight/aviaperelit (na materiali Anhlomovnykh reklamnykh slohaniv aviakompaniy). Natsional'noho universytetu «Ostroz'ka akademiya», Naukovi zapysky (Seriya «Filolohichna»), (51): 150-153.

Citation in translation: Verbal objectification of the concept of flight (based on the material of English advertising slogans of airlines). *National University "Ostroh Academy", Scientific Notes* ("Philological" Series), (51): 150-153.

See under "Фрейм «Професіоналізм»" [Freym «Profesionalizm»] ["Professionalism" Frame]: ". . . (Grand canyon airlines) *Creating memories since 1927* . . . (Scenic Airlines) *Since 1965 we have shown the awe and wonder of Grand Canyon to 10 millions people. You are next* . . ." (ENTIRE NOTE)

Compare Fomenko (2011)!

Barnard, Geoffrey S. [Barnard, Geoff]

- 1997 Conservation takes wings! *Colorado Plateau Advocate*, (Spring): 2.
Miscellaneous comments about Julie Gale, Grand Canyon overflights, BBC video ("Canyons, Dams, and Dinosaurs") on Grand Canyon.

Barry, Les

- 1971* Touring Grand Canyon by plane. *Popular Photography*, 68 (February): 36-.

Burks, Lyn

- 2015 Maverick Helicopters; bold name, bold company. *Rotorcraft Pro* (Fort White, Florida), (February): cover, 30-39.
Las Vegas-Grand Canyon air tour market.

Cederfelt, Bengt

- 2013* To discover America. Del 2 av 2. [*transl.* 'To discover America. Part 2 of 2.'] *Briefing* (Scandinavian Geographic Society, Stockholm), (88) (June): 15-19. [*In Swedish; title thus.*]
Includes remarks on a helicopter flight from Las Vegas over Grand Canyon and Hoover Dam (p. 19). [Part 1 of this article—(87) (February): 9-13—is not pertinent to this bibliography.]

Ciarcia, Steve

- 1986* *Ciarcia's Circuit Cellar. Volume V.* New York, St. Louis, San Francisco, Auckland, Bogotá, Hamburg, Johannesburg, London, Madrid, Mexico, Montreal, New Delhi, Panama, Paris, São Paulo, Singapore, Sydney, Tokyo, and Toronto: McGraw-Hill Book Co.
See "Building a Scrolling Alphanumeric LED Display", pp. 121-137; specifically, pp. 121, 122, brief thoughts during a helicopter excursion over Grand Canyon sponsored by a computer-show exhibitor. (LED: Light-emitting diode.)

Clark, A. L.

- 1951 Letter to the Editor. *Popular Mechanics Magazine*, 95(3) (March): 8.
Note, with photo, of "E. B. 'Red' Carson and R. J. 'Bart' Barton in front of a helicopter owned by the Arizona Helicopter Service, deep in Grand Canyon. The Arizona firm has been taking tourists into the canyon since last May."

Dåversjö, Jerry

- 2015* Längs Route 66. [*transl.* 'Along Route 66.'] *In*: Ordföranden Har Ordet ['The Chairman Speaks' SECTION]. *Julhälsningen* (Upplands Fordonshistoriker, Uppsala), 2015: 1. [*In Swedish.*]
Includes note, *in passing*, of a helicopter flight from Las Vegas over Grand Canyon.

Davis, Lou

- 1984 Scenic's window of wonders. *Air Transport World*, 21 (July): 78-79.
Scenic Airlines, aerial tours of Grand Canyon.

Dougherty, John

- 2011 Under the flight path; how an air-tour businessman and Italian developers are cashing in on the Grand Canyon. *High Country News*, 43(10) (June 13): 1, 2, 12-18, 20.
Elling B. Halvorson.

Edwards, Meredith

- 2017 Grand Canyon Scenic Airlines. *Aero Crew News* (Atlanta, Georgia), (November): cover, 38-46.
Regarding operations out of Boulder City, Nevada, including history, management, and training. Includes "Interview with Dave McIntosh, Chief Pilot", regarding hiring and training (pp. 44-45).

Ellis, Catherine E.

- 2009 Clouds, snow, fire and jail; Walter M. Ainslie's 1921 air tour and the birth of aviation in northern Arizona. *Journal of Arizona History*, 50(4) (Winter): 315-338.
Mostly not in Grand Canyon region.

Farkas, Tomás

- 2007* Muscle World 2; Ameriká voltunk. [*transl.* 'Muscle World 2; We're in America.'] *Fit Muscle Magazin* (Hungary), 2007(2) (17): 40-44. [*In Hungarian.*]
Regarding Hungarian body builder Zoltán Vörös's visit to the Las Vegas area. Text is an interview with Imrével Kovács and Vörös. Grand Canyon *in passing*; photos include Vörös standing by helicopter at Grand Canyon West.

Feder, Marcia

- 2020* Interviews; meet our new head of unit! *TRADivarius* (DG Trad Newsletter) (European Parliament, Directorate-General for Translation, Multilingualism and External Relations Unit), (40) (March): 2.
Interview with Feder, "head of the recently established Speech-to-text Unit". Includes remarks on Feder's travels, including having seen in 2019 "Grand Canyon by helicopter—another high point!" (ENTIRE NOTE)

Fomenko, O. C. [Фоменко, О. С.]

- 2011 Брендинг і неймінг: відображення національної ідентичності в назвах авіаперевізників. *Лінгвістика XXI століття: нові дослідження і перспективи* (Центр наукових досліджень та викладання іноземних мов НАН України), 2011: 280-287. [*In Ukrainian, with abstract also in Russian and English; use of Roman orthography, thus.*]
Citation in transliteration: Brendynh i neyminh: vidobrazhennya natsional'noyi identychnosti v nazvakh aviapereviznykiv. *Linhvistyka XXI stolittya: novi doslidzhennya i perspektyvy* (Tsentru naukovykh doslidzhen' ta vykladannya inozemnykh mov NAN Ukrayiny), 2011: 280-287.
Citation in translation: Branding and naming: reflection of national identity in the names of air carriers. *Linguistics of the XXI Century: New Research and Perspectives* (Center for Research and Teaching of Foreign Languages of the National Academy of Sciences of Ukraine), 2011: 280-287.
See in the section on "Актуальність" [Aktual'nist'] [Topicality]: "У назвах авіаперевізників використовуються культурні символи країн їхнього походження: е.г. . . . Grand Canyon Airlines . . . (USA) . . ." [U nazvakh aviapereviznykiv vykorystovuyut'sya kul'turni symvoly krain yikhno'oho pokhodzhennya: e.g. . . . Grand Canyon Airlines . . . (USA) . . .] [Cultural symbols are used in the names of air carriers countries of origin: e.g. . . . Grand Canyon Airlines . . . (USA) . . .]. (ENTIRE NOTE)
Compare Asmukovich (2015)!

Fredrix, Paul

- 1938 The canyon from above. The Colorado's big gorge with Boulder Dam and lake thrills fliers. *The New York Times*, (April 17): Resorts and Travel section, p. 7.

Futehally, Rabia

- 1977* India 99s visit USA. *The 99 News* (The Ninety-Nines, Inc., International Organization of Women Pilots, Oklahoma City, Oklahoma), 4(1) (January/February): 10-11.

Includes brief remarks on an air visit to Grand Canyon and "a wonderful Copter trip into the Canyon" (pp. 10-11).

Gurrutxaga, Myriam, AND Etxeberria, Enara

- 2019* Route 66 moto gainean. [*transl.* 'Route 66 on a motorcycle.'] *Ataria* (Tolosaldeko Komunikazio Taldea, S.M.ko, Udala, Spain), (1136) (November 1): 12. [*In Basque.*]

Motorcycle trip from Chicago to Los Angeles. Includes brief note of helicopter tour over Grand Canyon.

Harrington, Joe

- 2012 Expendables 2. *In*: Joe Harrington's Movie Madness [COLUMN]. *PV Mirror* (Puerto Vallarta City Paper, Puerto Vallarta, Jalisco, Mexico), (217) (December 15-21): 12.

Includes recollection from a trip to North Rim of Grand Canyon, including a ranger's discussion of actor Sylvester Stallone requesting a helicopter to fly out of the canyon.

Haug, Kristin, AND Töpper, Verena

- 2021 *Mittagspause auf dem Mekong : Auswanderer über ihr neues Leben in 22 Ländern.* [*transl.* 'Lunch break on the Mekong: Emigrants talk about their new lives in 22 countries.'] München: Penguin Verlag (Penguin Random House Verlagsgruppe GmbH), 254 [255] pp. [Cover includes the logos of Penguin Verlag and Spiegel Buchverlag.] [*In German.*]

See "Hamburg → Las Vegas; Vier Mal am Tag über den Grand Canyon" (*transl.* 'Four times a day over the Grand Canyon'), pp. 134-137; regarding Sundance helicopter pilot Ingo Nehls (see also photo on p. [9] of color inserts).

Head, Elan

- 2008 First jobs. *Autorotate* (Professional Helicopter Pilots' Association), 8(1): cover, 3, 6-12.

Includes David Bales, who is featured on cover and pp. 7-8, flying helicopter trips to Grand Canyon out of Las Vegas. [Cover photo legend (p. 3) indicates "Pilot David Bales flying over the Grand Canyon", but photo depicts lower Colorado River.]

Hébert, Claudine

- 2000 Un toast dans le Grand Canyon. [*transl.* 'A toast in the Grand Canyon.'] *In*: Vacances/Voyage [SEPARATE ADVERTISING SECTION]. *La Presse* (Montréal), (October 21): H10. [*In French.*]

Helicopter tour from Las Vegas to Grand Canyon West. Title refers to advertised "champagne flights."

Honan, William H.

- 1973* They don't sell flight insurance at the Grand Canyon Heliport. *Saturday Review of the Society*, (April): 24, 26.

Ingram, Tolbert R.

- 1927 Utah gives up its liquid gold. *The Rig and Reel Magazine* (Parkersburg, West Virginia), (September): 3-4, 14.

An oil-drillers' magazine. See p. 3, "A few miles to the southwest of Moab the muddy [Colorado] river cuts through a canon wall which marks the beginning of the Grand Canon of the Colorado." Also pp. 4, 14: "In the spring of 1921, the inhabitants of the little town of Green River, Utah, were enthused upon learning that some eastern men with visions had decided to establish an airplane service from that point down the Colorado River, over the rim of the Grand Canon and into Arizona for the benefit of tourists who might desire to see one of the greatest wonders of the world from the skies." A ruse to stake oil claims in "no-man's land". [Article is continued but not seen.]

JL International Publishing

- 1992 *Chronicle of aviation*. United Kingdom: Chronicle Communications Ltd., 984 pp.
See p. 794, Scenic Airlines 1982.

Knyvett, Bill

- 1971* The Grand Canyon by helicopter. *Desert Magazine*, 34(5) (May): 32-33.

Kocks, Kathleen

- 2004* Helicopter ownership; dreams of fun and profit. *Flying*, 131(4) (April): S1-S3, S5, S7, S9 [Special Advertising Section].

See p. S3, note of interviewee Roger Bamford's wedding ceremony at Grand Canyon, flying into the canyon on a Sikorsky S-55 Whisper Jet; and p. S7, note of interviewee Maria Langer's desire to get a summer job with an air-tour operator at Grand Canyon.

Laramore, Nina

- 2012 Breaking the glass ceiling in Abu Dhabi. *The Southwesterly* (International Ninety-Nines, Southwest Section), (January/March): 4.

Regarding helicopter pilot Elizabeth Cook Peebles. Notes previous work flying tourist helicopters over Grand Canyon from Las Vegas, and compares Abu Dhabi passengers to Grand Canyon passengers.

Larsson, Ola

- 2013* Bara några rader . . . om slutna cirklar på CES. [*transl.* 'Just a few lines . . . about closed circles at CES.'] *ElektronikBranschen* (Stockholm), 2013(1): [3]. [Ellipsis is part of title.] [*In Swedish.*]

Consumer Electronics Show, Las Vegas. Item includes note and photo of helicopter trip into Grand Canyon (photo shows it is a commercial "champagne" flight to Grand Canyon West).

Leatham, Nyle

- 1966* The flight down into Grand Canyon. *Arizona Days and Ways*, (May 1): 52-55.

Grand Canyon Airlines tourist flight in a single-engine Piper Cherokee. Notes flight a few hundred feet above the Colorado River.

Lert, Frédéric

- 2004 Smooth and silent take-off for Papillon; EC130. *In: In Operation* [SECTION]. *Rotor* (Helicopter Association International), (June/July): 32.
- 2014 A day at the fuel farm; the operations of Maverick Helicopters leave nothing to chance, and here's the proof: a fuelling station right in the desert! / Une journée à la ferme; les opérations de Maverick Helicopters ne laissent rien au hasard. Pour preuve, cette station d'avitaillement en plein désert! *Helicopter Magazine Europe* (Les Ulis, France), (July 19): 18-25. *[In parallel English and French texts.]*
Las Vegas-Grand Canyon air tour market.

Levy, Alan

- 1977 By air: Grand Canyon. *The New York Times*, (April 24): Section 10, pp. 1, 18.
See also comment and correction, May 8, p. 45, in letter to the Editor by John Powers: "The Super DC-3," (May 8): 45. Nevada Air "165"-passenger DC-3s are mentioned; with an editorial correction noting passenger complement is 30 and air speed is 165 mph.

Majcherczyk, Jerzy "Yurek"

- 1998* *Zdobycie Rio Colca, najgłębszego kanionu na Ziemi.* *[transl. 'Conquering the Rio Colca, the deepest canyon on Earth.']* (Wstęp, Elżbieta Dzikowska.) Warszawa: ABC, 245 pp., plates. *[In Polish.]*
See remarks with English translation, 2000.
- 2000* *The conquest of Rio Colca, the world's deepest canyon.* (Introduction by Elżbieta Dzikowska and Gonzalo de Reparaz Ruiz.) (Mariusz Moryl, translator.) Arequipa, Perú: Layconsa Impresiones, 269 [270] pp., plates. [First English printing.]
See p. 17: "Our dream was to run the legendary Grand Canyon of the Colorado River. Unfortunately, when we got there in February, any canoeing on the river was prohibited. We were a bit lucky and did run its first part, known as Marble Canyon, having obtained a semi-official permit. We did see the entire canyon having flown over it in a small airplane." (ENTIRE NOTE)
- 2001* *Zdobycie Rio Colca, najgłębszego kanionu na Ziemi.* (Wstęp, Elżbieta Dzikowska.) Kraków: AA, 2nd ed. with supplement, 263 pp., plates. *[In Polish.]*
See remarks with English translation, 2000.

Meares, Bill

- 1971 Grand Canyon checkride. *Western Gateways*, 11 (Summer): 6-7.
Author flies with pilot Fred Maurer in a Hughes 500 helicopter to provide Maurer's "annual standardization checkride on the 'Havasupai' scenic flight route" over Grand Canyon.

Miettinen, Harri

- 2015* Puusuutarit Amerikassa. *[transl. 'Cobblers in America.']* *Tampereen Rakennusmestari* (Tampereen Rakennusmestari ja -insinöörit AMK ry, Tampere, Finland), 61(6) (September): 13-17. *[In Finnish.]*
Tampere University of Applied Sciences construction engineering students' trip to America in May. Includes helicopter trip over [western] Grand Canyon, and Hoover Dam.

Morrison, Bob, AND Morrison, Mary

- 2009* The Grand Canyon by helicopter. *The Log* (Erie Yacht Club, Erie, Pennsylvania), 7(2) (March/April): 20-21.

Hoover Dam and landing in western Grand Canyon, from Las Vegas.

Moseley, Keith

- 1984 Conference report: Leicester 1984. *Geology Teaching* (Association of Teachers of Geology, Journal) (United Kingdom), 9(4) (December): 113-114.

See p. 114: "On Sunday morning the programme was prefaced by a lecture from Trevor Ford about the Geology of the Grand Canyon. He presented an excellent set of slides with expertise and wit, and this made for a most enjoyable show. Two things, at least, were apparent: first, that the Americans are more willing than we are to sponsor both education and research; and second, that they need to start by educating the signwriter who wrote, "You can descend by helicopter into the Grand Canyon!" (ENTIRE NOTE)

Nakamura, Tsuneo [中村庸夫] [なかむらつねお]

- 2012* 『ラス・ベガスとフーバー・ダム』 *In: Pastore / パストラーレ* [SECTION]. *Engineering* (Engineering Advancement Association of Japan / 一般財団法人エンジニアリング協会), (130) (January): 28. [In Japanese; with serial title, publisher's information in Roman orthography, and bilingual section title.]

Citation in transliteration: "Rasu begasu to fūbā damu". *In: Pasutorāre* [SECTION]. *Engineering* (Engineering Advancement Association of Japan / 一般財団法人エンジニアリング協会 [Ippan zaidanhōjin Enjiniaringu kyōka]), (130) (January): 28.

Citation in translation: "Las Vegas and Hoover Dam." *In: Pastore* [SECTION]. *Engineering* (Engineering Advancement Association of Japan), (130) (January): 28.

Mostly a description of visit to Las Vegas and Hoover Dam, with note, *in passing*, of a sightseeing flight over Grand Canyon.

Palmer, Fred

- 2015 When in Vegas, tour the Grand Canyon by helicopter. *Outward Magazine* (Sacramento, California), (524) (March 26): 22. [LGBT serial.]

Piepenburg, Erik

- 2016 (October 25) He'll fly you to the Grand Canyon (after he's done singing). A word with: Lorenzo Lamas. *The New York Times*, (October 25): C5.

Interview with actor Lamas, who has a second career flying people in a helicopter to Grand Canyon for a champagne picnic lunch. Not mentioned, but refers to trips between Las Vegas and Grand Canyon West.

Pieper, Craig D.

- 2017* Letter from the publisher. (Photos by Melody Hood.) *Aero Crew News* (Atlanta, Georgia), (November): 8-9.

Regarding driving trip taken during the National Business Aviation Association's Business Aviation Convention and Exhibition, Las Vegas, which included an air tour from Boulder City, Nevada, over western Grand Canyon.

Piper, Jenny

[2021]* From the Publisher. *Travel and Cruise Weekly* (Parkside, South Australia), (042): 3. [Issue not dated; another source online indicates issue no. 042 is dated **1 March 2021**.]

Mentions a 2014 helicopter flight over Grand Canyon (with photo showing Piper beside helicopter inside the canyon, thus it was a flight from Las Vegas to Grand Canyon West).

Pociask, Martin J.

2002 Elling Halvorson HAI chairman, driving spirit for the helicopter industry. *Rotor* (Helicopter Association International), (Summer): 4-5.

2010 Elling Halvorson. *In*: HFI Heritage Series. *Rotor* (Helicopter Association International), (Winter 2010-2011): 36-46.

Helicopter Foundation International.

Richfield, Paul J.

1993 The turbulent times of a tour pilot. *Flying*, 120(3) (March): 74-75.

1999 The turbulent times; there are some things which shouldn't fly. *In*: O'Reilly, Sean, O'Reilly, James, and Habegger, Larry (eds.), *Grand Canyon : true stories of life below the rim*. San Francisco: Travelers' Tales, pp. 157-160.

Reprinted from Richfield (1993).

Samuels, Mabel, AND Samuels, Ray

2011* The Ugly Truth—U.S. visit. *The Burmese Association of Western Australia Newsletter*, 31(3) (December 2010-May 2011): [9]. [Byline under title is "Mabel and Ray Samuels", but column is signed "Ray & Mabel Samuels".]

The writers were winners of a trip to Los Angeles in a competition sponsored by *The Ugly Truth* movie. Remarks include brief note, without details, of helicopter flight from Las Vegas to Grand Canyon West.]

Scott, Steve

1993* Eloy, Arizona. *In*: DZ's around the world [SECTION]. *Sport Parachutist* (British Parachute Association, Glen Parva, Leicester), (April/May): 40-41.

See p. 40, brief remark on a side trip in a Twin Otter (no parachuting) to visit Grand Canyon. (DZ: Drop Zone.)

Soto, Gloria

2011* Un estat dels EUA; Nevada. [*transl.* 'A state in the USA; Nevada.'] *Or i Flama* (Centre Moral i Instructiu de Gràcia "El Centre", Barcelona), (90) (December): 18-19. [*In Catalan.*]

Includes brief note (p. 19) of helicopter flight over Grand Canyon from Las Vegas.

Standard Oil Company of California

1953 Plane fax. Your best week-end flight plan for September. Sightseeing by air inside the Grand Canyon. *Flying*, 53(3) (September): 45.

Actually an advertisement for Standard Oil products.

Sullivan, R. B.

- 1933 A trip over the Grand Canyon by airplane. *Santa Fe Magazine*, 27(11) (October): 15-16.
A half-hour commercial flight from the "Tusayan Forest" airport (Red Butte) in a five-passenger Grand Canyon Airlines Wasp Travelair. Flights promoted by Fred Harvey Company. Other aircraft noted in use are a nine-passenger Ford trimotor and a "two-passenger open biplane".

Sweet, Dan

- 2018 Helicopter sightseeing at the Grand Canyon. It's not just a tour . . . it's an experience. *Rotor* (Helicopter Association International), (Spring): 20-21. [Ellipsis is part of title.]

Tandjung, Steve

- 2017* Agency Regional Conference 2016 [sic] goes to Las Vegas. *Jendela* (QBE General Insurance Indonesia, Jakarta), 42(July/December): 9. [Item title in English; text in Indonesian.]
Regarding Circle Of Excellence Agency Regional Conference, 7-12 April 2017. Notes of rafting [lower] Colorado River, Hoover Dam, and helicopter flight over Grand Canyon; *in passing*.

Thailand, House of Representatives, Transportation Commission

- [คณะกรรมการการคมนาคม สภาผู้แทนราษฎร] [Pratheṣṭhiy, khṇa krrmāṭhikār kār khmnākhm ṣphā phūthænṛās'ḍr]
- 2011* รายงานการเดินทางไปศึกษาดูงานและเจรจาธุรกิจ ด้านการคมนาคมและขนส่ง ของ คณะกรรมการการคมนาคม สภาผู้แทนราษฎร : ระหว่างวันจันทร์ที่ ๑๐ ถึงวันพฤหัสบดีที่ ๒๐ มกราคม ๒๕๕๔ : ณ ประเทศสหรัฐอเมริกา. [Thailand]: กลุ่มงานคณะกรรมการการคมนาคม สำนักกรรมการ ๑, 40 pp. [In Thai.]
Citation in transliteration: Rāyngān kār deinthāng pī ṛṇks'ā dū ngān læa cercā ṭhurkic ḍāḍ nār khmnākhm læa khn ṣṅg khxng Rāyngān kār deinthāng pī ṛṇks'ā dū ngān læa cercā ṭhurkic ḍāḍ nār khmnākhm læa khn ṣṅg khxng : rahwāng wān cānthr thī 10 ṭhūng wān phvḥāsbdī thī 20 mkrākḥm 2554 : ṇ prathēṣ ṣṭhṛṭhmerikā. [Thailand]: klum ngān khṇa krrmāṭhikār kār khmnākhm lu, ṛāṇ nāk krrmāṭhikār 1, 40 pp.
Citation in translation: Report of travel to study and negotiate transport and transportation business by the Transportation Commission, House of Representatives : between Monday to Thursday, 10-20 January 2011 : in the United States. [Thailand]: Group of Transport Commissioners, Office of the First Commissioner, 40 pp.
See "มลรัฐเนวาดา (เมืองลาสเวกัส)" [mlṛaṭṭh newādā (meuṭxng lā ṣ' weka ṣ')] [Nevada (Las Vegas)], pp. 16-17, which includes visits to Grand Canyon and flight over Hoover Dam; and see in "ภาคผนวก" [phākh phnwḥk] [Appendix], specifically p. 38, three photos of Transportation Commission's visit to Grand Canyon West, January 14, 2011.

Thomas, B.

- 1970 Grand Canyon by helicopter. *Travel*, 133 (June): 46-50.

Tierney, V. Ronnie [Tierney, Veronica]

- 2021 Brenda Halvorson soars with the Papillon Group; helicopter company CEO has spent a lifetime enjoying the Grand Canyon from top to bottom. *In:* FBN Business Woman of the Month [SECTION]. *Flagstaff Business News* (Flagstaff, Arizona), 14(5) (May): 10.

Tracy, Carla

- 2012* Grand getaway; walk on the Indian side with the Hualapai Tribe; exciting excursions from Nevada's Strip include Grand Canyon West, Lake Las Vegas and Hoover Dam. *Gamyu* (Hualapai Tribe), (2) (January 20): 3.

Facsimile printing of the first page of a newspaper article from *The Maui News* (date not indicated, pp. C1[?], C5). Only the first page is reproduced, which focuses on the writer's trip to Grand Canyon West, including a helicopter transfer to the Colorado River and short boat ride.

Veretennikov, Ivan [Веретенников, Иван]

- 2013 Вид сверху; новый лёгкий *Eurocopter* повышенной комфортности—самая верная ставка, когда-либо сделанная в Лас-Вегасе. *Robb Report* [Russian ed.], 92(2) (February): 124-127. [In Russian, with item title in mixed Cyrillic and Roman orthography, and serial title in English.]

Citation in transliteration: Vid sverkh; novyy logkiy Eurocopter povyshennoy komfortnosti – samaya vernaya stavka, kogda-libo sdelannaya v Las-Vegase. *Robb Report* [Russian ed.], 92(2) (February): 124-127.

Citation in translation: View from above; the new lightweight *Eurocopter* is superior—the surest bet ever made in Las Vegas. *Robb Report* [Russian ed.], 92(2) (February): 124-127.

“От первого лица тест-драйв” [ot pervogo litsa test-drayv] [first-person test-drive]. First paragraph notes (*translated here*): “Once, two travel companies from Las Vegas turned to the American representatives of the Eurocopter concern, taking their guests to the Grand Canyon with EU350 helicopters. The passengers were satisfied, but the practical and unpretentious vehicle, which earned a reputation as a reliable ‘workhorse’, still lacked comfort and visibility. For this, the Americans came to Eurocopter. The single-engine EC130 was a guide’s dream.” The remainder of the article refers to EC130 specifications and uses in Russian markets.

Veronico, Nicholas A.

- 2013 NAHI winners recognized at Reno. *Aviation History*, (January): 10.

Brief. Includes note of John Seibold, Scenic Airlines’ founder and partner in Grand Canyon Airways, who flew in his 1929 Ford 5-AT Tri-Motor that flies over Grand Canyon. Also noted is Seibold’s 1929 Stinson SM-1 in Scenic Airlines livery, the type that inaugurated Grand Canyon scenic flights in 1927.

Warren, Ronald L. [Warren, Ron]

- 1993 How many Scenic’s. *Grand Canyon Pioneers Society, Newsletter*, 4(7): 2-3.

- 1994 Air tours started with one man and his plane. *In:* Grand Canyon National Park; celebrating 75th anniversary. *Williams-Grand Canyon News* [special supplement, Grand Canyon 75th Anniversary Edition], pp. 18-19.

White, Ralph K.

- 1959 Soviet reactions to our Moscow Exhibit: Voting machines and comment books. *Public Opinion Quarterly*, 23(4) (Winter 1959-1960): 461-470.

See p. 464: “*Circarama*. This 360-degree film showing many American scenes ([including] . . . an airplane visit to the Grand Canyon) was technically impressive and seemed to have a special appeal to the travel-hungry Russians.” (ENTIRE NOTE) Study by U.S. Information Agency, Moscow Exhibition, summer 1959.

Yannaco, Annamarie, AND Murray, Elizabeth J.

2002 (EDS.) The outstanding feat of the ages; *Flying* looks back at the last 75 years of flight. *Flying*, 129(8) (August): 72-76, 78-80, 82-83, 86, 88, 90-92, 94, 96-97, 100, 102-104, 106-110, 112, 114-119.

See p. 108, "1980; Another super King Air", which also notes "The arrival of the Cessna 404 Titan [. . .] frequently used by Scenic Airlines for tours to and over the Grand Canyon. One reason was that if one engine quit, the other one would keep pulling a load of 10 people, even on a hot day."
(ENTIRE NOTE)

Young, Heidi

2013 Spotlight—Heidi Young. *Southern Comfort Gaited Horse Club* (Idaho), (November): 3-5.

See p. 3, reminiscence of work at a small ranch near South Rim of Grand Canyon, while husband flew helicopter tourist flights over Grand Canyon.



3

GENERAL AVIATION AND HISTORIC AIRCRAFT

NOT LONG AFTER the first flights were made to and into the Grand Canyon, trips to the canyon were begun to be flown by civilian pilots. Some of these began the lucrative aerial tourism business at the canyon (see [Tourism](#)), while others were the flights of aviators just passing by the canyon. This was still a time when any aviation news was of interest, all the more so if it involved famous aviators, including Charles Lindbergh, who descended into the canyon in 1928, news in itself if only because it was Lindbergh! Readers eager to read anything about the pioneer international aviator were informed even that he had left his plane and gone to lunch during his flights in northern Arizona. Lindbergh Hill (8934 ft elevation), within Grand Canyon National Park on the Kaibab Plateau, was later named for him.

The equally famed aviator Amelia Earhart would later fly over the canyon in 1935—doing double-duty while she awaited engine adjustments at the Red Butte airfield, pitching in for a friend as an air tour pilot incognito! She returned again in 1936, with greater publicity.

Humorist and early frequent flyer Will Rogers, though not a pilot himself, greatly recommended a flight over the Grand Canyon. And aviator Wiley Post (with whom Rogers died in an accident in Alaska in 1935) likewise mentioned having flown over the canyon area.

General aviation embraces not only leisure flights or business trips by civilian aviators, but purposeful flights for specific reasons, such as photography. One particularly specialized series of flights came when in 1937 New York's American Museum of Natural History mounted an expedition to study the canyon's "sky island," Shiva Temple. Putatively "cut off" from the canyon's North Rim millennia ago, scientists supposed, non-avian animals would have evolved differently from those on the "mainland" North Rim. [See also the aerial-view postcard on [p. 199 herein](#).] The expedition members climbed to Shiva Temple and were supported by supplies dropped by parachute. The citations herein focus on the aerial ventures only. The expedition was sensationalized by the press, but the scientific results were nil—the animals were in fact pretty much run of the mill, as ordinary

animals could traverse the saddle between Shiva and the Kaibab Plateau. But it made for great press for a couple of weeks; even the air drops by the pilot, Miss Amy Andrews, added derring-do to the reporting.

While one or two historical photographs are often reproduced showing General of the Army Dwight Eisenhower standing near a Santa Fe Railway officer's private rail car that had carried him to the Grand Canyon in 1950, never mentioned is his chartered flight from Dallas, Texas, to Las Vegas, Nevada, in 1952, in which he took the controls. The *New York Times* reported concisely: "The Eisenhower party had a good look at the Grand Canyon today, thanks to a new pilot on the Western run, General of the Army Dwight D. Eisenhower. The general was at the controls when his chartered plane crossed from Dallas to Las Vegas this morning. He circled the canyon and then went on to this city to start a tour of Hoover Dam." Eisenhower was indeed a licensed pilot, from 1939.

Because general aviation at the Grand Canyon, including air tours, involved so many kinds of aircraft, some accounts are cited herein that relate to such aircraft at Grand Canyon. These include a few items about the Planes of Fame aeronautical museum at Valle, Arizona. Note, though, that the Valle location is no longer open to the public, as announced in a February 9, 2023, press release (<https://planesoffame.org/news/193/1/Planes-of-Fame-Air-Museum-Valle-Arizona-Facility-Closed-to-Public-Viewing>) (the main website is still active):

The Planes of Fame Air Museum has announced that its Valle, Arizona (aka Planes of Fame Grand Canyon) facility is closed to the visiting public. The facility, which opened in 1995 and housed an assortment of aircraft and historical memorabilia, has been converted to a facility for "return to flight" restoration.

Artifacts, memorabilia, and other items have been transferred to the Chino headquarters location. Many of these items will be placed on public display at the Chino facility. Others will be held in storage and possibly put on display at the Museum's new expansion facility being constructed at the Santa Maria Airport in Santa Maria, California when that facility opens.

Anonymous

____ General Aviation works for America. *Avfuel Corporation's Advisor* (Ann Arbor, Michigan), __: 9-10.

Seen only as the article, lacking issue information and date on individual pages. See "Grand Canyon National Park", p. 9.

[1928] Lindy hops off alone to canyon; finds Williams field too small for takeoff in loaded plane. *In*: Yuma Aviation History [SECTION] (contributed by Jim Gillaspie). *Newsletter Without A Name* (Experimental Aircraft Association, Local Chapter 590, Yuma, Arizona), (March, 2002): [2-3].

Regarding Charles Lindbergh. From the Yuma *Morning Sun*, April 15, 1928.

GENERAL AVIATION AND HISTORIC AIRCRAFT

- 1928 Searchers for Lindbergh find new plane in Arizona with note, "Gone to Lunch". *The New York Times*, (April 15): 9.
 News item from Williams, Arizona. Appended is a separate news item filed from Grand Canyon, noting the Charles A. Lindbergh stop at Grand Canyon landing field (i.e. Red Butte airfield).
- 1928 Lindbergh drops in, surprising Denver. Unheralded, he alights among 3,000 watching military air manoeuvres. Flew from Grand Canyon. There he abandoned recent reticence and talked of previous visit on muleback. *The New York Times*, (April 16): 16.
 Appends news item filed from Grand Canyon.
- 1928 Lindbergh in Arizona. Dines at Grand Canyon as he follows air mail route. *The New York Times*, (May 31): 21.
- 1928 How much do you know of the world you live in? *Popular Science Monthly*, 113(4) (October): 66, 161.
 Quiz. Includes query, "What river has the deepest canyon?" Answer: "The deepest canyon in the world, as well as the longest, is the Grand Canyon of the Colorado River. In places this great gorge is more than a mile deep. A view from an airplane is one of the most spectacular sights imaginable."
 (ENTIRE NOTE)
- 1929 Aerial camera snaps new canyon bridge. *Popular Science Monthly*, 114(4) (April): 70.
 Navajo Bridge viewed from aircraft.
- 1931 The birth of the Early Birds; old-timer's club started in 1928. *Popular Aviation*, 8(3) (March): 13.
 Grand Canyon, *in passing*. The "Early Birds" club of early aviation pioneers (prior to 1916), originated during an early-morning flight over Grand Canyon: "The man ahead looked over the side—down, down, down, into the awful gash in the earth's bosom—the Grand Canyon."
- 1937 "Island in the sky" defies explorers. Plane of Anthony party seeking to scale Shiva's Temple in Grand Canyon can't land. *The New York Times*, (September 14): p. 25.
 Regarding the American Museum of Natural History expedition to Shiva Temple led by curator Harold B. Anthony.
- 1937 Pair on sky island ask ammunition. Grand Canyon superintendent believes Dr. Anthony has found "sizable animals". Scientists lack water. Woman flier fails in attempts to land supply by parachute on isolated, arid mesa. *The New York Times*, (September 19): 44.
 Regarding the American Museum of Natural History expedition to Shiva Temple led by curator Harold B. Anthony. The expedition's pilot was Miss Amy Andrews.
- 1937 Plane drops food to sky island pair. Dr. Anthony plans stay of a week or ten days to study animals on high plateau. Quest called a success. Expedition postpones ascent of Wotan's Throne till scientist quits Shiva Temple. *The New York Times*, (September 20): 25.
- 1938 Grand Canyon, Arizona. *In*: Here and There on the Desert [SECTION]. *Desert Magazine*, 1(3) (January): 22.
 U.S. Weather Bureau station established to aid in regional air travel.
- 1940 ". . . Dawson, Trip 2. 9,000 feet over Grand Canyon . . ." *In*: Transportation—Journey by Plane. Mankato, Minnesota: Creative Education Society, 2 pp. (Visualized Curriculum Series, 82.) [Ellipses are part of title.]

GENERAL AVIATION AND HISTORIC AIRCRAFT

- 1947 They cover canyon. *In: Here and There on the Desert [SECTION]. Desert Magazine*, 10(8) (June): 33.
"Richfield—Ralph A. Badger and Harry Aleson have been seeing the Grand Canyon country. They drove from Richfield to Boulder City, Nevada and chartered a plane there. In the plane they flew to Hite, Utah, following the Colorado river, Lake Mead, Grand Canyon, Marble canyon and Glen canyon, flying more than 1000 miles. Back on the ground, they took a power boat from Pierce's Ferry 46 miles into the Grand Canyon, going up the Colorado during its spring flood. The pair then made a horseback trip into Havasu canyon for color pictures of Havasupai Indian life, and returned by auto to Utah." (ENTIRE ITEM)
- 1952 A flier in politics. *The New York Times*, (June 23): 12.
"Special to The New York Times. Las Vegas, Nev., June 22—The Eisenhower party had a good look at the Grand Canyon today, thanks to a new pilot on the Western run, General of the Army Dwight D. Eisenhower. The general was at the controls when his chartered plane crossed from Dallas to Las Vegas this morning. He circled the canyon and then went on to this city to start a tour of Hoover Dam." (ENTIRE ITEM) (Eisenhower was indeed a licensed pilot.)
- 1954 Grand Canyon natural bridge. *The New York Times*, (November 28): 62.
Natural bridge in Nankoweap area of Grand Canyon sighted by Senator Barry M. Goldwater, who had first seen it from the air "several years ago" and recently returned to more precisely locate it.
- 1965 Indians get gifts by chutes. *The New York Times*, (December 25): 10.
Gifts delivered to Havasupai by parachute from a C-46 transport plane supplied by Intermountain Aviation Company of Marana, Arizona.
- 1966 (December 21) Canyon gifts parachuted. *The New York Times*, (December 21): 15.
Gifts delivered to Havasupai by parachute. Program begun 22 years ago.
- 1980 Since 1918: women in the National Park Service. *Courier* (U.S. National Park Service), 3(2) (January): 8-9.
See p. 8: "Isabelle Story's single engine plane stalled above the Grand Canyon . . . she was able to glide it safely to the other rim." (ENTIRE NOTE) (ellipsis is part of quotation). (Story was an American writer and editor, becoming the first National Park Service editor-in-chief in 1934. She was not herself a pilot.)
- 1999 Bar Ten Ranch. *In: Bush Pilot [SECTION]. Pilot Getaways*, (Spring).
- 1999 Fly a little lower, will ya? I want to get a shot of the ledge hole. *Boatman's Quarterly Review*, 12(3) (Summer): 13.
Illegal overflight seen on the Colorado River.
- 2000 Tuweep, Arizona. *In: Bush Pilot [SECTION]. Pilot Getaways*, (Spring).
- 2006 Grand Canyon Airlines Travel Air A-6000-A. *In: Travel Air News [SECTION]. The Travel Air Log* (Travel Air Restorers Association, San Jose, California), 13(1) (March): 10, 11.
Restored, flight-worthy aircraft at Valle Airport, Arizona. See also note by Jerry Impellezzeri (in "From the Cockpit" president's column, p. 2), "Jim Helfrich reports that John Seibold's Grand Canyon Airlines Travel [A]ir A-6000-A is ready for its first flight and perhaps by the time you read this it will have happened."

GENERAL AVIATION AND HISTORIC AIRCRAFT

- 2008 First in flight. *In: Grand Canyon and Tusayan guide : Fall 2008.* Williams, Arizona: Williams-Grand Canyon News, p. 15.

Grand Canyon Airlines' restored Stinson Detroiter airplane; the same model as which first flew over Grand Canyon in 1927.

- 2014 August fly-in results; Grand Canyon—August 23, 2014. *APA Newsletter* (Arizona Pilots Association), (September): 23-24.

Thunder Over Coconino event at Grand Canyon-Valle Airport.

Aeronautical Chamber of Commerce of America, Inc.

- 1929 *Aircraft year book : 1929.* New York: Aeronautical Chamber of Commerce, Inc., 484 pp.

See in Chapter 5, "Private Flying": "Lindbergh Travels Only in the Air", which includes note (p. 54) that ". . . he explored the Grand Canyon from the air, dropping down into the gorge, 4,000 feet below the top of the walls." (ENTIRE NOTE) [Charles Lindbergh.]

Back, Colleen

- 2003 A western adventure; exercise your pilot privileges on a scenic trip. *AOPA Pilot* (Aircraft Owners and Pilots Association), (February): 78-84. [In the reprint seen, running footer gives date February 2003 but reprint credit on p. 84 gives February 2002 and copyright 2002.]

Barbier, Thierry

- 2013 驾驶超轻型飞机欣赏地球原生态的美 [jiàoshǐ chāo qīngxíng fēijī xīnshǎng dìqiú yuán shēngtài dì měi]. Enjoy the earth colors. *Flying China* 私人飞行, 1 (March): 74-79. *[In Chinese, with bilingual article and serial titles.]*

Author's given name misspelled "Therry". See p. 79, brief remarks on flying over the Grand Canyon. The serial title in Chinese orthography translates as *Private Flight* even though the English-language title is shown as *Flying China*.

Barrett, Connor, AND Haghighat, Armon

- 2019 Recap: Grand Canyon Fly-In December 2018. *APA Newsletter* (Arizona Pilots Association), (January): 14-15.

Berg, Erik

- 2020 An Eagle's eye view of the Grand Canyon; the aerial photos and explorations of Charles and Anne Lindbergh. *In: Quartaroli, Richard D. (compiler, ed.), Celebrating 100 years of Grand Canyon National Park, February 2019 : a gathering of Grand Canyon historians : ideas, arguments, and first-person accounts.* Grand Canyon, Arizona: Grand Canyon Association [and Grand Canyon Historical Society], pp. 75-80.

Boccon-Gibod, Thierry

- 2005 (POOL PHOTOGRAPHER) Around the world in 67 lonely hours. *The New York Times*, (March 4): A1.

Photograph of GlobalFlyer, piloted by Steve Fossett, above Grand Canyon during the first solo, nonstop aerial circumnavigation of the world.

Photo supports an article that otherwise does not mention Grand Canyon: "In spirit of Lindbergh, a solo pilot circles the world without stops", by Matthew L. Wald, p. A14.

Bosshardt, Rick

- 2020 Grand Gulch fly/camping adventure. *APA Newsletter* (Arizona Pilots Association), (June): 16-17.

Bradley, Paul; Muche, Lani; AND Paulsen, Gerrit

- 2000 The air museum "Planes of Fame", Grand Canyon, AZ. *SW Aviator*, (August/September).
Valle, Arizona.

Buckley, William F., Jr.

- 1998 Mr. Conservative. In an igloo and in the cockpit with Barry Goldwater. *The New York Times*, (May 31): Weekend Section, p. 17.
Includes a brief remark about Goldwater taking Mr. and Mrs. Buckley and the writer George Gilder on "his private plane for a tour of the Grand Canyon."

Callan, Daniel

- 2013 Brain-machine-interface improves recovery time from perturbation in flight attitude on a novel complex piloting task [ABSTRACT]. *In*: Ugur, Emre, Oztop, Erhan, Morimoto, Jun, and Ishii, Shin (eds.), *Towards a robot-enabled, neuroscience-guided healthy society : proceedings of the IROS 2013 Workshop on Neuroscience and Robotics, Tokyo Big Sight, Japan, November 3rd, 2013*, pp. 43-44. [International Conference on Intelligent Robots and Systems.]
"The goal of this research is to develop adaptive automation that can improve response speed of a pilot's motor commands to an unexpected event by using a brain-machine-interface BMI to decode perceptual-motor intention. [. . .] Brain activity during the task was recorded using magnetoencephalography MEG. [. . .] An additional session was conducted in which the task for the subject was to pilot an airplane through the Grand Canyon following closely the river below."

Carmony, Tom

- 1999 Planes of Fame Air Museum; Grand Canyon. *The Bulletin* (Grand Canyon Pioneers Society), 3(6): 2.
Valle, Arizona.

Childs, Craig, AND Heisey, Adriel

- 2004 Reading the palm of Arizona's landscape; aerial viewpoint reveals an infinite character. *Arizona Highways*, 80(3) (March): 6-13, back cover.

Churchill, Edward

- 1948 Desert flying is tough; before you cross the burning deserts, heed this advice from the pilots who know how to fly them. *Flying*, 42(5) (May): 26-27, 70-72.
Regarding the prudence of traveling with extra drinking water: "Recently a couple of fellows were forced down near the Grand Canyon and walked 40 miles before they found a drop to drink. They were in bad shape." (ENTIRE NOTE) No details.

Collins, Marian L. (ed.)

- 1959 [Overflight.] *The Supai News*, (December 18): 2.
"An airplane just flew over Supai so low that we do not see how it ever got up out of the Canyon below the Village. It wasn't a Jet either." (ENTIRE ITEM)

Coonts, Stephen

- 1992 *The Cannibal Queen : an aerial odyssey across America*. New York: Pocket Books, 344 pp.
Hardbound ed. See pp. 268-271 regarding flight to Grand Canyon.

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- 1993 *The Cannibal Queen : a flight into the heart of America*. New York: Pocket Books, 376 pp.
Paperbound ed. See pp. 294-298 regarding flight to Grand Canyon.

Coussens, Jerry

- 2018 From the desk of the President. *The Landings* (Experimental Aircraft Association, Chapter 75, Quad-Cities of Illinois and Iowa, USA), (December): 1-6.
"Editor's Note: This is Part 1 of Jerry's 2nd trip to the Grand Canyon a few years back." Part 1 comprises the aviator's travelogue for days 1 and 2. Day 2 (August 16, no year indicated) includes (pp. 5-6) his lengthy remarks on flying to Grand Canyon West and taking the various tours there. A photo (without legend) on p. 2 shows Grand Canyon from the air near Grand Canyon West. Plans to proceed to Page, Arizona, were thwarted by weather, and turned around with a plan to land at Grand Canyon National Park Airport, but which also was thwarted by weather, so he continued to Kingman and spent the night. *Continued in the January 2019 issue*.
- 2019 From the desk of the President. *The Landings* (Experimental Aircraft Association, Chapter 75, Quad-Cities of Illinois and Iowa, USA), (January): 1-4.
Continued from the December 2018 issue. "Editor's Note: This is Part 2 of Jerry's 2nd trip to the Grand Canyon a few years back.") Part 2 comprises the aviator's travelogue for days 3 and 4, which begins at Kingman, Arizona. This part includes a photographs (with no legends) of the Grand Canyon Skywalk at Grand Canyon West and the author aboard a boat on the Colorado River, apparently part of the Grand Canyon West's tours, and the following brief notation (p. 1): "I set the plane for climbing cruise and headed northeast. The plan, level off at 9600', which was above the Grand Canyon National Park no fly zone. Flying over the park you could see the expanse of the Grand Canyon, pretty amazing. The plateaus were covered in a carpet of green, I assume cedar trees or junipers, the beautiful reds and tans covered by dark green made for a beautiful view."

Doane, James

- 1978 (PHOTOGRAPHER) *America : an aerial view*. (Layout by J. Opiss, introduction by M. Wiesenthal.) New York: Crescent Books, 96 pp. (Copyright by Geocolor, S.A., Barcelona, Spain.)
See pp. 10-11.

Downie, Ruth, AND Downie, Don

- 1958 Lockheed's lensman. *Flying*, 62(6) (June): 40-42, 74, 76-77, 78.
Aerial photographer Erik Miller. See pp. 42, 74, regarding a flight in a Cinerama B-25 to photograph a TWA Constellation flying over Grand Canyon.

DuBert, Bob

- 2013 July 10, 2013. Erie-Ottawa Regional Airport, Port Clinton, Ohio (on the Lake Erie shore, half-way between DTW and CLE), Northwest Airways Ford 5-AT, reg. NC8419. *In*: NWAHC members fly the Experimental Aircraft Association Ford Tri-Motor Air Travel Experience [FEATURE]. *Reflections* (Northwest Airlines History Centre, Bloomington, Minnesota), 11(3) (Fall): 9.
Includes note, *in passing*, that NC8419 had once flown Grand Canyon sightseeing flights. Includes current photos.

Dyson, Marianne J.

- 2016 *A passion for space : adventures of a pioneering female NASA flight controller.* Chichester, United Kingdom: Springer Praxis Books.

See "Preparing for STS-2", which notes small-aircraft flight to Grand Canyon in the 1980s; and "Secret Preparations and Discrete Discrimination", which includes notes of the author's one-day hike to the bottom and back in the Grand Canyon.

STS: Space Transportation System, also known as the Space Shuttle.

Edsall, Larry

- 2009 Classic planes of the Coconino Plateau. *Arizona Driver*, (July/August): 48-51.

Planes of Fame Air Museum, Valle.

Forden, Lesley

- 1973 *The Ford air tours, 1925-1931.* Alameda, California: Nottingham Press, 202 pp.

- 2003 *The Ford air tours, 1925-1931 : a complete narrative and pictorial history of the Seven National Air Tour competitions for the Edsel B. Ford Reliability Trophy : reprinted in support of the 2003 National Air Tour* (2003 additions and corrections by Gregory Herrick). New Brighton, Minnesota: Aviation Foundation of America, 202 pp.

See "Frank Free", p. 172.

Garrison, Peter

- 1970 Used-plane pilot report: the Beech Debonair. *Flying*, 87(3) (September): 61-68.

Grand Canyon, p. 68.

Grant, George A.

- 1942 The country beyond; photographs by George A. Grant for the Department of the Interior. *National Parks Magazine*, 16(71) (October/December): 13-16.

Aerial views. See p. 13, view northwestward over Marble Canyon (with Navajo Bridge), Vermilion Cliffs, and Paria Plateau.

Green, Nancy

- 2002 Grand Canyon aviation history. *The Bulletin* (Grand Canyon Pioneers Society), 6(10): 1-3.

Summary of presentation given by Ron Warren.

- 2008 Red Butte airfield and the Planes of Fame Museum in Valle—August 9th outing. *The Bulletin* (Grand Canyon Historical Society), 12(3) (October): 1-2.

Hastings, David

- 2017 Coast to coast in the USA. *AOPA UK* (Aircraft Owner and Pilots Association, London), (October): 24-28.

Includes Grand Canyon, pp. 27, 28.

GENERAL AVIATION AND HISTORIC AIRCRAFT

Hayler, John

- 2013 TCB . . . Takin Care of Business. *Propwash* (Hastings District Flying Club, Port Macquaire, New South Wales, Australia), (July): 5-8. [Ellipsis is part of title.]

Flight in twin-engine Beechcraft 58P Baron from Greensborough, North Carolina, U.S.A., to Macquaire, New South Wales, Australia. See p. 5: "Mid afternoon saw us landing at the Grand Canyon airport, and it was a truly breathtaking sight from the air in '58TT' [N158TT]. It's quite a ditch they have there!!" (ENTIRE NOTE)

Heisey, Adriel

- 2007 Raw wonder; an aerial photographer illuminates why he takes to the sky to get close to the land; a portfolio. *Arizona Highways*, 83(1) (January): cover, inside front cover, 22-33.

See also "Flight of Fancy Turns Into Magic Carpet Ride", p. 4.

Heisey, Adriel, AND Watkins, T. H.

- 1996 Hawk high over Four Corners. *National Geographic*, 190(3) (September): cover, 80-97.

Kintner, J. E. (Mrs.)

- 2012 By air from the Grand Canyon to Phoenix and Los Angeles. *In*: Koontz, Giacinta Bradley (with Gene Tissot), *The original Grand Canyon Airport : a 1930s scrapbook of life at Red Butte Aerodrome, Arizona*. Prescott, Arizona: Running Iron Publications, pp. 13-14.

Reprinted from *Coconino Sun* (Flagstaff), January 6, 1928, p. 8.

Kocis, Desiree

- 2017 Submitted by Eastern New England Chapter member Desiree Kocis. *Squawk* (International Organization of Women Pilots, New England Section 99s), (March): [6].

Includes photo and remarks, *in passing*, concerning flying an SR22 (*i.e.*, Cirrus SR22 aircraft) over Hoover Dam and along Grand Canyon.

Lawrence, Brad

- 2015 Bryce Canyon weekend getaway; August 22 fly-in. *APA Newsletter* (Arizona Pilots Association), (October): 14-17.

Includes flight over Grand Canyon (pp. 14, 16).

Letz, Oliver, AND Letz, Edith

- 2009 Fly Boy Fly Girl Rally 2009. *Hangar-News* (Marcair, Inc., Roanoke, Texas), 6(1) (August).

Private-plane flight rally through Southwest; includes Hoover Dam and Grand Canyon. Item signed at end, "Oliver, Edith, Gilbert"; but by-line is as cited here.

Mahnken, Scott, AND Hilburn, Hal

- 2001 The Grand Gulch Mine; Arizona's richest copper mine (in 1911, that is). *SW Aviator*, (August/September).

Mast, Connie

- 1985 A grand flight. *Arizona Highways*, 61(5) (May): 14-15.

GENERAL AVIATION AND HISTORIC AIRCRAFT

Monahan, Linda

- 2006 It's our airspace too! *PMLAA News* (Pine Mountain Lake Aviation Association, Groveland, California), 21(1) (January): 4.

Includes notes on flying in eastern Grand Canyon airspace.

Nelson, Carlyle LaMar

- 1974 Flying the tunnel; "underground" in the Grand Canyon. *Journal of Arizona History*, 15(4) (Winter): 319-324.

The author piloted Western Air Express Flight 2 (Los Angeles to Albuquerque), January 12, 1930, in a Fokker F-10 aircraft, encountering blizzard conditions in northern Arizona. A white-knuckle series of events with notes of historical interest, with the flight eventually forced into and west through the Grand Canyon to return to Kingman.

Newcomb, Rexford

- 1930 A point of vantage. *In*: Over The Editor's Desk [SECTION]. *The Western Architect, Current Architecture* (Chicago), 39(6) (June): 102.

"Airplane cross-canyon service has been established at Grand Canyon National Park." (ENTIRE ITEM)

Ooi, Lucy [the author's name is pronounced "we"]

- 2013 An aeronautical Arizona vacation. *Flying Club 1* (Flying Club 1, Springfield, Virginia), 13(12) (December): 10-12.

Part 3 of a series. This installment includes flight from Grand Canyon Caverns, over Grand Canyon, to Valle and on to Page.

Pace, Steve

- 2011 Grand Canyon pioneer; John Seibold's Stinson SM-1. *Flight Journal*, (April): 38-41.

The term "pioneer" refers to the aircraft, in Seibold's collection of historical planes.

Paulsen, Gerrit

- 1999 Flying the Grand Canyon; don't let the airspace restrictions stop you. *SW Aviator*, (June/July).

Plange, David

- 2013 Single across the Pacific; it might be a PT6 but there's still only one engine—David Plange flies an overweight Caravan across lots of water. *General Aviation* (Aircraft Owners and Pilots Association, London) (Cornwall, United Kingdom), (April): 20-23.

Cessna Caravan, flight from Wichita, Kansas, to Singapore. See p. 20: " . . . a breathtaking view of the Grand Canyon flying almost directly over KGCN, the Grand Canyon National Park Airport just off the rim of the canyon itself." (ENTIRE NOTE)

Pohl-Imfeld, Martin

- 2014 Einmotorig unterwegs . . . [*transl.* 'Single engine . . .'] *EAS Newsletter* (Experimental Aviation of Switzerland), (August): 8-11. [Ellipsis is part of title. Serial title in English, thus.] [*In German.*]

Flight over Grand Canyon in Sling2 Experimental Light Sport Aircraft.]

Post, Wiley

- 1935 Post's own story of dash in the sky. 34,000 feet was too high for engine, so he made landing as "sanest" course. Best time at 30,000 feet. He is elated to learn that backer will stick until he crosses nation in 7 hours. *The New York Times*, (March 16): 3.

Post unable to complete a "substratosphere flight across the continent." Takes note: "My course led directly over Barstow, Calif.; thence over the Boulder Dam region, which I could not see through the clouds. [¶] The first thing I saw after riding over the clouds was the Kiabab [*sic*] forest, on the north rim of the Grand Canyon. From that altitude it was a comforting thing to see something I could recognize."

(For a follow-up to Post's later successful record-setting trip, see Owen [1935] under "[Commercial Aviation](#)" herein.)

Raymond, Mary

- 2011 AFFN flies low. *The Living Light* (First Friends Church, Whittier, California), 50(6) (June): 6.

All Friends Fellowship Night presentation by Mark Newton on views from the air in the Southwest during a flight with pilot Mark Armstrong. Includes Vermilion Cliffs, Glen Canyon Dam, and Colorado River, *in passing*.

Reeves, Hazard

- 1999 This is Cinerama. *Film History*, 11: 85-97.

"Hazard Reeves died on 24 December 1986. The above discussion of Cinerama was written in the mid-1980s and it has been extracted from his unpublished autobiography, *Nine Lives and More*." [See p. 91, noting air-speed record and aerobatic pilot Paul Mantz: "In a converted B-52 [*sic*, B-25] bomber, with cameraman Harry Squires filming the landscape from the nose of the plane, Mantz flew [from Pittsburgh to San Francisco] . . . swooping into the gorges of the Grand Canyon . . ." (ENTIRE NOTE)]

Reik, Martina, AND Reik, Oliver

- 2017 Heading West. *Eagle's Propwash* (Experimental Aircraft Association, Chapter 113, "The Backyard Eagles", Canton, Michigan), (January): [10]-[12].

Flight to the West Coast in December 2016, the first time in their own aircraft. Mentions only in passing a flight over Grand Canyon en route to Page, Arizona, where they were weathered in. They flew west again to Las Vegas where they used a rented car to visit Death Valley (where they had stopped briefly at Furnace Creek airport during the earlier flight). Returning eastward they flew again over Grand Canyon, with the only note being: "The FAA has established several corridors over the Grand Canyon—the views we [*sic*] breath taking and we enjoyed the flight a lot!" (p. [10]). See also an aerial photograph of Grand Canyon, p. [11].

Reilly, P. T. [Reilly, Plez Talmadge]

- 1960 Aerial discoveries in the Grand Canyon. *Plateau*, 32: 68-72.

- 1972 Discovery of Keyhole Natural Bridge. *The Masterkey* (Southwest Museum, Los Angeles), 46(2) (April/June): 61-70.

Reinhold, Ruth M.

- 1982 *Sky pioneering : Arizona in aviation history*. Tucson: University of Arizona Press, 232 pp.

GENERAL AVIATION AND HISTORIC AIRCRAFT

Rogers, Will

- 1928 Will Rogers advises flight over the Grand Canyon. *The New York Times*, (August 25): 12.
In a letter to the editor: "If you never take but one airplane trip in your life, make it the one where you fly over the Grand Canyon." (ENTIRE NOTE)

Rosen, Arthur

- 2010 Traveling Las Vegas and Arizona. *Plane and Pilot News* (Ravenna, Ohio), 34(5) (May): 9.

Russell, Charles

- 2006 Arizona. *Recreational Pilot* (Recreational Aircraft Association of New Zealand, Hamilton), (27) (October): [unpaginated].
Two pilots from New Zealand. Article begins with comments about having been at North Rim of Grand Canyon and driving (down off the Kaibab Plateau but not mentioned by name) to an otherwise unidentified "desert" airstrip (with 5000-foot concrete runway).

Sankey, Eleanor

- 1978 Cross-country flight. *In*: Gone Flying [SECTION]. *The 99 News* (The Ninety-Nines, Inc., International Organization of Women Pilots, Oklahoma City, Oklahoma), 5(5) (June): 22-23.
Greenville, South Carolina, to Bay Area of California and return, with husband in a 1971 Piper Cherokee 140. Includes the brief note: "On our return via the southern route . . . interesting sights were the London Bridge at Lake Havasu City; the Meteor Crater; the Petrified Forest, the Painted Desert, and the lower portion of the Grand Canyon. It was amazing how very different these places look from the air, after having visited all of them by car."

Scherman, David E.

- 1940 (PHOTOGRAPHER) Flight across America; from a light plane Life gets a fine look at a great land. *Life*, 9(12) (September 16): cover, 60-71.
Photos include aerial view of sewage disposal plant "near Grand Canyon", p. 68.

Science Service

- 1929 Airplane service across the Grand Canyon. *In*: Science News [SECTION]. *Science*, New Series, 70(1807) (August 16) (Supplement): xii, xiv.

Shackelford, James B.

- 1941 The world through the camera. *International Photographer* (Los Angeles), 13(3) (April): 1, 3-5, 10.
See p. 1, photo with editor's legend, ". . . set-up in plane to film dropping of supplies to party of explorers on Shiva Temple expedition in Grand Canyon. While banking a turn over the temple the plane hit an air pocket and went into a thousand-foot side slip. Forward momentum carried Shackelford and his party to safety over the edge after just grazing the tree tops." (ENTIRE NOTE)

Shook, Mike

- 2009 My trip with Paul. *The Flying Wire* (Experimental Aircraft Association, Chapter 124, Windsor, California), 48(8) (August 5): 5-7.
One of several remembrances of Paul Reinders (about whom see p. 2). Recalls an October 2008 ferry flight in "a new RV9a" with Reinders, from Wichita, Kansas, to California. "We fueled up in Page, Az, flew around Glen Canyon Dam and then thru the Grand Canyon." (ENTIRE NOTE)

GENERAL AVIATION AND HISTORIC AIRCRAFT

Simon, Nic

- 2008 Comment voler VFR au-dessus du Grand Canyon. [transl. 'How to fly VFR over the Grand Canyon.] *Union des Pilotes Luxembourgeois, Bulletin d'Information*, (February): 12-14. [In French.]
VFR: Visual Flight Rules.

Smith, Andy

- 2002 Air tour of the Grand Canyon. *The Congressional Record* (Congressional Flying Club, Inc., and Civil Air Patrol, Montgomery Senior Squadron, Gaithersburg, Maryland), 20(1) (January): 3-4.
Focuses on safety and logistics during a winter flight to Grand Canyon in a 172 (i.e., Cessna 172).

Swint, Mark

- 2002 Spanning the mighty Colorado at Lee's Ferry. *SW Aviator*, (November/December).

Terry, Teresa Jean

- 2017 [Comment.] *From*: Beset by drones. *In*: From Our Website: hcn.org [COLUMN]. *High Country News*, 49(21) (December 11): 3.
Comments on a drone flying over campsite where she and several other women were camping alone on North Rim of Grand Canyon. (Unoccupied aerial vehicle.)

Truemper, K.

- 2012 Flying the Grand Canyon. *Hangar Echoes* (Experimental Aircraft Association, Chapter 168, Dallas, Texas), 43(7) (July): 1, 5-9.
"This is an abbreviated version of a blog. For the full version, go to <http://passionforflight.blogspot.com/>" (accessed December 2020; 18 pp., with many illustrations, though includes ground visit at Grand Canyon.)

U.S. Federal Aviation Administration

- NO DATE *Facility orientation guide : Los Angeles Air route Traffic Control Center (ARTCC)*. [No place]: U.S. Federal Aviation Administration, 48 pp.
See maps: p. 9, "Los Angeles Center High Altitude Sectors" and "Los Angeles Center Low Altitude Sectors"; map, p. 17, "Los Angeles ARTCC and the Operational Areas"; and "Area F" (p. 23), which notes that "they handle traffic into the Grand Canyon, Las Vegas departures and arrivals to airports in the Southwest US" and "They handle Approach Control service for Grand Canyon, Kingman and St George airports."

Warren, Ronald L. [Warren, Ron]

- 1994 Amelia Earhart and Grand Canyon. *O' Pioneer* (Grand Canyon Pioneers Society), 5(8): 3-4.
Earhart paid an overnight visit to friends at the Red Butte airfield in September 1935. While awaiting adjustments to the engine of her Lockheed Vega (NC-965Y), a couple arrived for an air tour with Grand Canyon Airlines. The chief pilot, Irv Kravitz, asked if they wouldn't mind if he "'broke in' a new 'company' pilot"—Earhart, incognito! The woman later thought that she recognized Earhart, but her husband demurred; after all Earhart was "famous," and what would she be doing out here flying air tours!?
- 1995 Aviation at Grand Canyon; a 75-year history. *Journal of Arizona History*, 36(2) (Summer): 151-172.

GENERAL AVIATION AND HISTORIC AIRCRAFT

Williams, James

- 2007 Beyond the \$100 hamburger; flying vacation preparedness. *FAA Aviation News* (U.S. Federal Aviation Administration), 46(3) (May/June): 6-17.
Includes Grand Canyon.



4

COMMERCIAL AVIATION

COMMERCIAL AVIATION to the Grand Canyon did not come for a while following the first ventures of military and a few general-aviation aircraft into the area, though a few aviation businessmen were tantalized with the prospect of commercial flight in light of the growing popularity of the new Grand Canyon National Park. As commercial aviation grew in general, sightseeing en route between destinations became a staple of some carriers, but there remained for a long time no place at which to land close to the canyon other than the Red Butte airfield, which was more of a locale for local air tours. A couple of carriers entertained the prospect of hurrying some transcontinental train passengers along their journey by hop-scotching the rail trip with plane trips—flying over the Grand Canyon in the process. The novelty never really caught on.

Local tourism has been the mainstay of commercial businesses in the Grand Canyon area (see [“Tourism”](#) herein). While the Grand Canyon National Park Airport in nearby Tusayan has been a busy field since its construction in the late 1960s, with commercial, general aviation, and tourism flights a regular activity—and a couple of times receiving Air Force One on presidential visits—historically the balance of commercial aviation at the canyon was restricted to overflights during scheduled and chartered travel, often detouring from regular routes to give passengers a look at the famous Grand Canyon. The end of such visual-flight flying with canyon diversions came with the disastrous midair collision of two eastbound commercial airliners high over the canyon on June 30, 1956 (see [Part 2](#) herein); it was the *Hindenberg* catastrophe of fixed-wing flight, though rather than suppressing commercial aviation it led to modern-day air traffic control.

Many commercial flights do fly high over the canyon today—occasionally a pilot may bring passengers’ attention to it—but these are all on regular routes. In good weather the view may be spectacular, but echoing Orville Wright’s pronouncement in 1917 (see under [“First Flights”](#) herein), “the Grand Canyon of the Colorado will flatten out almost to a plain. Though the shining river will be seen winding its tortuous way in a mass of variegated colors, the grandeur of the gorge in size and sculpture will be gone.” (However, I must personally interject a marvelous view I witnessed on an early morning commercial flight from Arizona to Colorado. Flying at altitude northeastward over the

Navajo Indian Reservation east of the canyon, I saw to the west the canyon completely covered over by clouds all the way to its eastern boundary. But the low morning sun shined through the gap beneath the clouds into the canyon, brightly illuminating the landscape and its many buttes in a most intriguing fashion. The corresponding view on the ground along the overcast East Rim Drive must have been spectacular. Notwithstanding Mr. Wright's assertion, grandeur was on display through that slot beneath the clouds, from 33,000 feet.)

Anonymous

- 1929 Air-rail riders reach Los Angeles. Party of ten that left here Wednesday night arrive in time for dinner. In flight for 2,000 miles. Guests of Transcontinental Air Transport, ahead of schedule, look down on Grand Canyon. *The New York Times*, (June 29): 2. ("From a Staff Correspondent of The New York Times.")

Party departed Pennsylvania Station in New York City, arriving in Los Angeles in two days. The rail trip was interrupted twice to transfer to Ford Tri-motor aircraft; the second transfer was at Clovis, New Mexico, with landings in Winslow and Kingman, Arizona.

"At Winslow, Ariz., Wilson, the courier, put lunch aboard. [. . .] Here two new pilots took charge—John Gugliometti and Wesley Phillippi—and in the next two hours and twelve minutes they gave the travelers the greatest thrill of the trip. [¶] It was suggested that because they were well ahead of the schedule it might be nice to go fifty or sixty miles off the course and have a look at the Grand Canyon from the air. Traffic officials were consulted and the change in course was approved. [¶] Out of Winslow the plane turned southwesterly [*sic*], skirting the western edge of the Painted Desert and dodging to the east of a thunderstorm that was playing about the crags of San Francisco peak. [¶] Wilson served luncheon, and as the plane climbed higher, reaching 12,000 feet, the passengers ate and enjoyed a spectacle it is not given many to see. For twenty minutes they flew above the canyon, saw its varicolored sides, its palisades and turrets, rearing up, one above the other, in buff and ebony, in red and purple. Straight down, 8,000 feet from their perch on the wings of the wind, the diners saw the muddy Colorado steadily plowing its way deeper into the narrow chasm that forms the centre of the canyon. [¶] It was reassuring, also, to look down on the wooded plateau on either side and see emergency landing fields providentially placed in case of need. [¶] The Canyon trip, it is possible, will be included in the regular schedule of the Transcontinental Air Transport trip."

- 1935 Two airlines start scenic flights; Boulder Dam, Grand Canyon on routes. *The New York Times*, (February 24): Section X, p. 19.

United Air Lines and TWA.

- 1935 Robot plane sets mark from coast. "Mystery" craft here from Los Angeles in 11 hours 5 minutes, record for transports. Pilot seldom in charge. Takes control only for three short periods during the 2,400-mile flight. *The New York Times*, (May 1): 1, 3.

TWA. Includes note that pilot D. W. Tomlinson flew through part of Grand Canyon to avoid a storm. (Page 3 also includes an item under Tomlinson's by-line, which mentions Grand Canyon only in passing.)

- 1937 This Winged World [FEATURE]. *Air Trails* (New York), 9(3) (December): 4-6. [Table of Contents describes feature as "News photos of airplanes, air events, airmen".]

See photo, p. 5: "Flying the scenic Grand Canyon route, a TWA Skysleeper passes over Meade Lake [*sic*], above Boulder Dam. The tiny ripples on the lake mark the progress of a speeding motor boat, dwarfed by the gorge. Newly inaugurated by TWA, this new route has proven popular with air travelers." Low altitude flight. The dam is not in this photo.

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- 1938 Grand Canyon, Arizona. *In*: Here and There on the Desert [SECTION]. *Desert Magazine*, 1(3) (January): 22.
U.S. Weather Bureau station established to aid in regional air travel.
- 1938 T.W.A. plane route changed. *The New York Times*, (May 31): 19.
Sky Chief to fly over Grand Canyon and Boulder Dam.
- 1955 Press gets a plane ride. *Broadcasting, Telecasting*, (May 9): 105.
Three-hour ride in DC-7 over Grand Canyon by American Airlines, commemorating the airline's continuous sponsorship over two years of the "Music 'til Dawn" program on KNX Hollywood.

Aeronautical Chamber of Commerce of America, Inc.

- 1936 *The aircraft year book for 1936*. (Howard Mingos, ed.) New York: Aeronautical Chamber of Commerce, Inc., 526 pp.
See "Tomlinson's Transcontinental Records" (p. 149 ff), which notes D. W. Tomlinson's non-stop flight from Los Angeles to New York, April 30, 1935, aboard a TWA Douglas aircraft. Includes the note, "They swerved 40 miles southward over the Grand Canyon" to dodge a storm (p. 150). See also pp. 181-182, remarks on the scheduled TWA flight, "Sky Master", which takes note of scenic views including Grand Canyon and Boulder Dam.

Bergen, Candice

- 1972 "I thought they might hiss". *Life*, 72(15) (April 21): 90.
A postscript to "Love Feast for Charlie" by Richard Meryman, photographed by Candice Bergen, pp. 86-89. Charlie Chaplin fete in New York. Bergen's item includes note of Chaplin, during flight to Los Angeles to the Academy Awards, crossing to the opposite side of the airplane to view the Grand Canyon: "His face lit up. 'Oh yes, this is the place where Doug Fairbanks did a handstand on the precipice. He told me about it.'" (ENTIRE NOTE)

Butterfield, Roger

- 1946 Cardinal-designate Spellman. [Part 2.] *Life*, 20(4) (January 28): 87-88, 90, 92, 95-96, 98.
See p. 88, anecdote, *in passing*, about then-Bishop Francis J. Spellman flying to the west coast in 1936 with then-papal Secretary of State Eugenio Cardinal Pacelli (later Pope Pius XII), asking the pilot to detour to fly over Grand Canyon "so that Cardinal Pacelli may see it."

Forbes, Silke Januszewski, AND Lederman, Mara

- 2009 Adaptation and vertical integration in the airline industry. *American Economic Review*, 99(5) (December): 1831-1849.
See p. 1837 note 19: "The smallest airport in our sample is Grand Canyon National Park Airport, with two flights per day." Grand Canyon airport not further noted specifically.
Abstract: "We explore patterns of vertical integration in the US airline industry. Major airlines subcontract portions of their network to regional partners, which may or may not be owned. We investigate if ownership economizes on ex post renegotiation costs. We estimate whether airlines are more likely to use owned regionals on city pairs with adverse weather (which makes adaptation decisions more frequent) and on city pairs that are more integrated into the major's network (which raises the costs of having adaptation decisions resolved suboptimally). Our results suggest a robust empirical relationship between adaptation and vertical integration in this setting."

COMMERCIAL AVIATION

Golding, Jim

- 1997 San Francisco: First stop in [sic] the West Coast, for His All Holiness. *In: Patriarchal Visit [FEATURE]. Orthodox Observer* (Greek Orthodox Archdiocese of America, New York), 62 (December): 14.

His All Holiness Ecumenical Patriarch Bartholomew. Flight from Dallas passed over Grand Canyon. No details.

Keene, Ed

- 2021 Barf-o-rama over the Grand Canyon. *Air and Space*, 36(3) (September): 51.

Brief reminiscence of flying commercial Cessna T206s and T207s during summer of 1980 between Las Vegas and Lake Powell, with stops including Dolan Springs and Tuweep, Arizona, and St. George, Utah. Recalls turbulence over Grand Canyon and the effects on passengers. Also notes checking weight and balance of aircraft at remote dirt strip stops.

Nelson, Carlyle LaMar

- 1974 Flying the tunnel; "underground" in the Grand Canyon. *Journal of Arizona History*, 15(4) (Winter): 319-324.

The author piloted Western Air Express Flight 2 (Los Angeles to Albuquerque), January 12, 1930, in a Fokker F-10 aircraft, encountering blizzard conditions in northern Arizona. A white-knuckle series of events with notes of historical interest, with the flight eventually forced into and west through the Grand Canyon to return to Kingman.

Oliva, Andrew, AND Whitlock, R. Winston

- 2001 Farewell to the star of the fleet. *Airways*, 8(9) (November): 13-15.

Delta Airlines' last active TriStar 1 L-1011, N728DA, final flight, including flight over Grand Canyon at 15,000 feet.

Owen, Russell

- 1935 Speedways of the stratosphere. Wiley Post's record trip from the coast proves the feasibility of high-altitude transport and on the basis of the known facts the swift passenger flight of the future is envisioned. *New York Times Magazine*, (March 24): 3, 17.)

An imaginative trip of the future views: "Below are patches of mist and a few clouds, but between them the earth can be seen as a tiny checkerboard, even the mountains behind being dwarfed. To the right is the Grand Canyon, looking like a drainage ditch, and ahead the purple tops of the Rocky Mountains, rising from a cloud layer."

Smith, Frank Kingston

- 1968 Weekend Pilot [COLUMN]. *Flying*, 83(2) (August): 122.

Includes comments on viewing Grand Canyon from an airliner.

Smithson, Karen Suzanne

- 2014 Something to say. *Sage-ing With Creative Spirit, Grace and Gratitude* (A Journal of the Arts and Aging) (Okanagan Institute, Kelowna, British Columbia), (11) (Spring): 8-10.

See pp. 9-10, remarks on viewing Grand Canyon from an airliner, inspiring the writer's song, "Day Flight".

U.S. Civil Aeronautics Board

1966 *Civil Aeronautics Board Reports : Volume 43 : economic and safety enforcement cases of the Civil Aeronautics Board : July 1965 to January 1966.* Washington, D.C.: U.S. Government Printing Office.

See "Docket 15406 et al. (E-22938); Las Vegas-Grand Canyon nonstop service; decided November 16, 1965" (pp. 338-351). "Certificate of public convenience and necessity for route 105 held by Bonanza Air Lines, Inc., amended so as to authorize the carrier to service Grand Canyon, Ariz., as an intermediate point between Las Vegas, Nev., and Kingman, Ariz. . . ."



5

MILITARY AND GOVERNMENT AVIATION

MILITARY FLIGHTS to the canyon begin with the first-ever flights in 1919 and early 1920s, when investigations were being made into the ability to fly over and in the canyon and to locate potential landing strips. (See the “[First Flights](#)” section herein.) Confidence in canyon flights rose when even formation flights by military aircraft were reported by the early '30s. Inner canyon flight, too, had become almost a matter of course when as early as 1927 when airplanes were used to hunt for three different groups who were thought to (or who actually were) lost along the Colorado River. These were the U.S. Geological Survey hydrological expedition led by Claude Birdseye in 1923 (just four years after the first aerial ventures into the canyon), the Pathé-Bray Colorado River Expedition that was making a commercial film in 1927 (“Bride of the Colorado,” which never reached theaters though not because of any difficulties in the canyon), and the ill-fated honeymooning couple, Glen and Bessie Hyde, in 1928, whose boat only was found. Their story has been the subject of many magazine articles and books.

But perhaps most notable for adventure was when in June 1944 three Army Air Service men—Maurice J. Cruickshank, Charles Goldbloom, and Roy W. Embanks—were stranded inside the canyon after they had parachuted at night from what seemed to be their stricken aircraft. The pilot had ordered them out, but soon managed to regain control of the aircraft and returned safely to base. The parachutists, watching distant town lights suddenly blink out as they dropped below the canyon rim, did not at first know they were in the Grand Canyon. A days-long rescue operation was begun to get them out, by land. One of the rescuers, Allan A. MacRae, even was on his honeymoon at the canyon when he volunteered to join the party.

Ensuing years routinely witnessed military aircraft flying as low as the Colorado River, sometimes in aerobatic flight and apparently occasionally at supersonic speeds. One often-recounted encounter was when an Air Force jet on an unsanctioned flight inside the canyon clipped the tram cable for the Bat Cave guano mine in western Grand Canyon, effectively ending the operation even

though the mine had unexpectedly played out too soon. (The Bat Cave operation is historically well known, it had in fact several several ill-fated cables, but the bat guano mine does not otherwise garner much separate citation in the context of military aviation. There is one book-length treatment of the history there, by a man who worked there; see Roger A. Smith, *Batchit, Arizona: the Rise and Fall* [Batchit Books, Kingman, Arizona, 2020].)

From the time of World War II, it has been a tradition to deliver Christmas gifts to the children of the Havasupai Tribe living at Supai, deep in Havasu Canyon. At first the efforts were conducted by volunteered civilian flights, parachuting the materiel into the canyon; later it became a humanitarian cause of the U.S. Marine Corps' Toys For Tots campaign, delivering by military helicopter, which surely also was written off as a flight training exercise. But not all was serene in Supai in earlier times, when military aircraft would barrel through the canyon sometimes at supersonic speeds, as recorded in the short-lived *Supai Weekly News/Supai News* edited by Marian Collins, the wife of the Indian reservation's government agent. Readers may be surprised, too, to discover how often helicopters from Luke Air Force Base (near Phoenix) arrived for medical extraction flights.

Anonymous

- 1924 [Photograph.] Flirting with death in the Grand Canyon, Army planes from Rockwell Field flying low through the gorge to secure the first photographs of the canyon ever taken at such a low altitude. *The New York Times*, (May 11): Photogravure section, p. 2.
 Aerial photograph, showing wingtips of biplane in view.

- 1927 Army fliers seek men lost in canyon. Ordered to search for film party of 13, missing in Colorado River gorge. Out 16 days, food for 10. Camp Pearson headquarters of party filming the Grand Canyon apprehensive of fate. *The New York Times*, (November 26): 3.
 Regarding the Pathé-Bray commercial filming expedition on the Colorado River through Grand Canyon. Thought to be overdue.

- 1927 Start air canyon hunt. Army fliers, in search for missing film party, make Las Vegas base. *The New York Times*, (November 28): 12.

- 1927 Fliers at film camp. Army plane will start today in search for Larue [sic] party. *The New York Times*, (November 29): 8.

- 1928 Missing party located by Army airplane. *U.S. Air Corps News Letter* (Office of the Chief of the Air Corps, U.S. War Department, Washington, D.C.), 12(1) (January 7): 12.
 Search for Pathé-Bray Colorado River Expedition. Notes use of "Scenic Airway Field [Red Butte airfield], 18 miles south of El Tovar Hotel, Grand Canyon, as an additional landing field".
 See also pilot's official report (Burgess, 1928).

MILITARY AND GOVERNMENT AVIATION

- 1928 Army fliers to hunt pair in Grand Canyon. Search ordered, with Mr. and Mrs. Hyde overdue two weeks in their venture. *The New York Times*, (December 18): 13.
Regarding the Colorado River trip in a homemade flat-bottomed river scow by missing newlyweds Glen and Bessie Hyde. Their scow was later found but they never were located.
- 1932 Formation of bombers flies in Arizona Grand Canyon. *U.S. Air Corps News Letter* (Office of the Chief of the Air Corps, U.S. War Department, Washington, D.C.), 16(9) (August 12): 307.
9th Bombardment Squadron, stationed at March Field, Riverside, California, commanded by Capt. H. D. Smith with "guests Major McNarney, Commanding officer of the 7th Bombardment Group, and five news reel and feature service cameramen". Descriptions of air currents. Mission landed at Canyon Airport; *i.e.*, Red Butte.
- 1944 3 fliers stranded in the Grand Canyon. Men who parachuted from bomber await rescue. *The New York Times*, (June 27): 21.
- 1944 3 fliers in canyon start long climb out. Ranger and teacher reach men and guide them toward top. *The New York Times*, (June 30): 23.
- 1944 Canyon climbers save 3 Army fliers. Two experts use route traced from plane to end 9-day perch on mile-deep ledge. *The New York Times*, (July 1): 16.
- 1944 Fliers rescued from Grand Canyon. *Desert Magazine*, 7(10) (August): 22.
Maurice J. Cruickshank, Charles Goldbloom, and Roy W. Embanks, who parachuted from a distressed Army Air Force bomber over Grand Canyon.
- 1959 Khrushchev sees grandeur of U.S. Vast continental expanse spreads beneath plane as premier flies West. *The New York Times*, (September 20): 1, 43.
Soviet leader Nikita Khrushchev also sees Grand Canyon as the government plane circles the chasm.
- 1964 Healthier Indian mothers and babies. *Public Health Reports*, 79(6) (June): frontispiece, 468.
See frontispiece, depicting a woman and baby, the legend for which reads: "A health station in Supai, Ariz., maintained by the Public Health Service, is visited twice a month by an Indian Health Service doctor and nurse stationed at an Indian health center at Peach Springs, Ariz. They ride the last 12 miles from the top of the canyon to its floor by horseback. In emergencies an Air Force helicopter takes the doctor or nurse to the canyon floor."
- 1991 Charting the Grand Canyon. *FAA Aviation News*, 30(4): 12-.
- 1997 Stor redningsaksjon. [*transl.* 'Major rescue operation.'] *NHF nytt* (Norsk Helikopteransattes Forbund, Sola, Norge), 8(4): 5. [*In Norwegian.*]
Brief news item regarding two UH-60 National Guard helicopters and four private aircraft used to evacuate 400 people from Supai, Havasupai Indian Reservation, following floods.
- 2001 The Patrouille de France travels the U.S. to commemorate WWI alliance. *News From France* (Washington, D.C.), 17(5) (May): 1, 4-5.
The Patrouille de France is the French Air Force aerial demonstration squadron. See in "The 2017 North American Tour" (p. 5): "The tour began in Bagotville, Canada, on March 19 and made its way to the U.S. on March 25 with a flyover of the Statue of Liberty in New York. It also made flyovers of eight other symbolic landmarks including the Grand Canyon, the Golden Gate Bridge, and the U.S. Air Force Academy in Colorado Springs, Colorado." (ENTIRE NOTE)

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- 2006 [U.S. Marines deliver supply materials to rebuild school for Havasupai Tribe.] *Sikorsky Archives News* (Igor I. Sikorsky Historical Archives, Stratford, Connecticut), (October): 5.
Marines utilized five CH-37's (S-56). Photos.
- 2007 Systems and Software Technology Conference 2007: Enabling the global mission. *CrossTalk* (The Journal of Defense Software Engineering) (U.S. Air Force, Software Technology Support Center, Hill Air Force Base, Utah), 29(9) (September): 16-17.
Trade show attendees "were able to gain a sense of what it is like to fly through the Grand Canyon at near supersonic speeds in an actual flight simulator." (ENTIRE NOTE)
- 2014 A military aviator tribute. *Straight Scoop* (Pacific Coast Air Museum, Santa Rosa, California), 19(2) (February): 11-12.
Anonymously published with editor's prefatory note, "Because we are certain (no really, we're *certain!*) that none of our membership ever engaged in the dubious shenanigans described, we present this purely as a historical study of the odd social dynamics that can occur among people to habitually strap on several tons of aluminum and explosives and fly it on the deck into a combat zone. Or into any zone for that matter." See p. 12: "I miss flying upside down in the Grand Canyon and hearing about flying so low boats were blown over." (ENTIRE NOTE)

Arizona State Library, Archives and Public Records

- 2000 Arizona State Board on Geographic and Historic Names (ASBGHN). *In: Arizona State Library, Archives, and Public Records, Annual Report, 1997-2000*, pp. 387-390.
See under "Report of Accomplishments 1997-2000", under "1997-1998": "EMOGO Point—Commemorative new name for a point on the North Tonto Platform in the Grand Canyon National Park (Rejected)" (p. 390). (ENTIRE NOTE)
"EMOGO" is an acronym contrived from the names of the three World War II Army parachutists who landed inside the Grand Canyon in 1944, Embank, Cruickshank (whose nickname was "Mo"), and Goldblum. (This name has not been adopted.)

Azar, John S.

- 1994 A November visit to the paracamp. *Grand Canyon Pioneers Society, Newsletter*, 5(4): 5.
Refers to Butchart (1992); regarding the 1944 Army parachutists drop into Grand Canyon.
- 2001 Paracamp. *The Ol' Pioneer* (Grand Canyon Pioneers Society), 12(3) (July/September): 4-6.
Regarding the 1944 Army parachutists drop into Grand Canyon.
- 2007 Saving the Army fliers. The story of the 1944 parachutists [ABSTRACT]. *In: 2007 History Symposium. The Ol' Pioneer* (Grand Canyon Historical Society), 18(1) (January/March): 13.

Barker, Elizabeth

- 2005 High performance flight rewards high performance Airmen. *Fox II* (944th Fighter Wing Air Force Reserve, Luke Air Force Base, Arizona), 18(5) (May): 5.
Includes note of "Grand Canyon tour" incentive flight.

Brown, Art

- 2003 Army flyers rescued at Grand Canyon; the greatest rescue in history of Army aviation effected. *The Ol' Pioneer* (Grand Canyon Historical Society), 14(3) (July/September): 5-6.
Regarding the 1944 parachutists. See also correction by Jeanette Cox, 14(4): 3.

Brulle, Robert V.

- 2008 *Engineering the space age : a rocket scientist remembers*. Maxwell Air Force Base, Alabama: Air University Press, 268 [269] pp.
See pp. 24-25; passing note of a B-25 flight in 1952, buzzing Hoover Dam and Lake Mead, and flying up Grand Canyon at river level.)

Burgess, W. K. [Burgess, Walter K.]

- 1928 The search for the Pathe-Bray Colorado River Expedition. *U.S. Air Corps News Letter* (Office of the Chief of the Air Corps, U.S. War Department, Washington, D.C.), 12(4) (March 15): 101-105.
Pilot's official report of the search for Pathé-Bray Colorado River Expedition.

Burris, Roy E. [Jr.]

- 1992 Notes on 1944 plane crash in Grand Canyon. *Grand Canyon Pioneers Society, Newsletter*, 3(3): 5.
Not a crash, but regarding the army parachutists. See also Butchart (1992), Kleindienst (1993).

Butchart, Harvey [Butchart, J. Harvey]

- 1992 Notes on the parachutists in 1944. *Grand Canyon Pioneers Society, Newsletter*, 3(4): 1-2.
See also Azar (1994).

Caine, Philip D.

- 1991 *Eagles of the RAF : the World War II Eagle Squadrons*. Washington, D.C.: National Defense University Press, 417 pp.
Royal Air Force. See p. 83, note *in passing* from interview with Edwin Taylor in the flight training school at Bakersfield, California, "where he received no instrument time and spent much of his 20 hours in the AT-6 'sneaking off to fly through the Grand Canyon.'" (ENTIRE NOTE)

Capps, Wayne

- 2006 Generations come together; Tuskegee Airmen, modern aviators share C-17 flight. *Palmetto Airlifter* (315th Airlift Wing, Air Force Reserve, Charleston Air Force Base, South Carolina), 16(9) (September): 1, 2, 6-7.
Orientation flight over Grand Canyon as part of the Tuskegee Airmen Convention, Phoenix, Arizona.

Castillo, Daniel

- 2012 4th Marine Aircraft Wing. *In*: Been There Done That [SECTION]. *Continental Marines* (U.S. Marine Corps Reserve), (4th Quarter): 20.
Photograph with legend: "Marines with marine Medium Helicopter Squadron (HMM) 764 loaded toys gathered by the Flagstaff Toys For Tots organization for more than 175 Havasupai children on Dec. 4 at the Grand Canyon National Park Airport. They loaded the toys on a CH-46E Sea Knight helicopter and flew through narrow canyons and landed [illustration] in a confined area in order to deliver the toys on time."

MILITARY AND GOVERNMENT AVIATION

Collins, Marian L. (ed.)

- 1957 Helicopter makes surprise visit. *The Supai Weekly News*, (January 2): 1.
From Luke Air Force Base. Departing, "hit the telephone wire which leads up to Hualapai Hilltop"; departed to Phantom Ranch.
- 1957 Big noise. *The Supai Weekly News*, (June 13): 1.
"Last Friday morning we were all scared nearly out of this Canyon by a terrible noise. It sounded like all the red walls were falling down on us. The windows shook and people ran outside to see what was going on. A Jet went over a few seconds later andqwe [s/c] think it may have broken the sound barrier. Wheeee! We all thought for a minute war had come to Supai." (ENTIRE ITEM)
- 1957 Births. *The Supai Weekly News*, (July 4): 1.
Billy Wescogame born to Nancy Lee. See also p. 2, notes pertaining to mother and child shortly later having to be flown from Supai to Grand Canyon in the company of Dr. Henry from Grand Canyon. The helicopter, from Luke Air Force Base, happened to be at Grand Canyon at the time.
- 1957 [Unexpected arrival of helicopter.] *The Supai Weekly News*, (July 19): 1.
Helicopter from Luke Air Force Base. Anita Sinyella taken to Grand Canyon Hospital.
- 1957 Helicopter back third time. *The Supai Weekly News*, (July 31): 1.
Helicopter from Luke Field Air Base, Phoenix, came to bring Lilly Burro to Grand Canyon Hospital.
- 1957 Helicopter came in Tuesday. *The Supai Weekly News*, (August 7): 1.
Nathan Manakaja flown to Grand Canyon Hospital.
- 1957 Helicopter trip. *The Supai Weekly News*, (December 28): 1.
Unexpected arrival of Luke Air Force Base helicopter, from Grand Canyon, in two trips, with gifts from "Mrs. Sophie Burden and the Girl Scouts of Troop 143, Wickenburg". Crew was "Sgt. Taylor, Capt. McKeen, and Capt. Garrison".
- 1958 [Unexpected arrival of Luke Air Force Base helicopter.] *The Supai Weekly News*, (January 22): 1.
Delivery of "clothes, food, toys, a baby chair, and several other things for the people down here"; organized by a committee under Reed Watahomigie. A second trip carried things believed to be from "Boy Scouts of the Creighton School in Phoenix".
- 1958 [Overflight.] *The Supai Weekly News*, (February 12): 1.
"Last Thursday a Jet flew very, very low over the Village and scared us to pieces. It went over low twice; the second time it went right over Putesoy's place and then straight up. Most of us don't see how the pilot made it out of the red walls." (ENTIRE NOTE)
- 1958 [Overflight.] *The Supai Weekly News*, (February 19): 1.
"Another jet flew low over Supai yesterday morning. It did not go as fast as the last one but it sure did come down low; it went right over the trees and headed toward the Falls." (ENTIRE NOTE)
- 1958 Helicopter. *The Supai Weekly News*, (March 26): 1.
"At 5 P. M., on March 20, 1958, a big, silver cigar shaped helicopter" from Luke Air Force Base arrived to evacuate Mrs. Muriel Chambers to St. Joseph's Hospital in Phoenix. "She is now in Flagstaff with Mr. Chambers and Dwight."

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- 1958 [Overflight.] *The Supai Weekly News*, (April 23): 2.
"Last Saturday morning a big helicopter kept flying back and forth over Supai. The Forest Service was flying over to Fish Creek which is just across the Colorado River from where Havasu Creek empties into the River." (ENTIRE ITEM)
- 1958 Helicopter here Thursday P. M. *The Supai Weekly News*, (August 23): 1.
"Mrs. Stanley Manakaja got her second ride in one of the Luke Field helicopters last Thursday afternoon. She was taken to the Grand Canyon and then put into a big airplane and flown on down to the Phoenix Indian Hospital. She has been ill for many days and was unable to ride a horse out of Supai. We hope she will be well soon! And we are thankful for the great big 'copter! Thank you again, Luke Field Air Base!" (ENTIRE ITEM)
- 1958 Radio-Telephone fixed. *The Supai Weekly News*, (August 23): 2.
"When Alberta Manakaja got real sick Stanley, David Jones, and Mr. Collins put up the aerial and got things ready to broadcast for help. Wednesday evening about 5:30 p.m. Stanley climbed rapidly up on top of the Red Wall and pulled the aerial wire up. It started to thunder, lightning, and rain and he hurried back down and arrived in 30 minutes wet and dripping. He sure made that trip fast--about one hour up and down and was plenty good! Hooray for him. Thursday morning a message was sent for help and about 2 P. M. here comes the helicopter! This morning Cecil Dick and Mr. Collins went back up on the Red Wall and pulled the wire tighter so it would be higher. Mr. Carter stayed below to watch and work the Radio-Telephone." (ENTIRE ITEM)

[Here there is a title change from *The Supai Weekly News* to *The Supai News*.]
- 1958 [Overflight.] *The Supai News*, (November 28):p. 1.
"Tuesday afternoon another Jet 'buzzed' Supai and scared us all again. People hollered and ran and some hid." (ENTIRE ITEM)
- 1958 Airplane over low. *The Supai News*, (December 10): 2.
"Last Friday about noon a United States Air Force bomber (4 motors) flew low over Supai. It did this four times and once it dropped a little parachute to Mr. Collins [Havasupai Reservation Indian agent] with a message. The 'chute was made out of a piece of old cloth, some wire, and a spark plug. The note was wrapped around the plug. Stanley and Albert W. saw the parachute drop but no one else did and no one could find it. Sunday, after Church, here came Virginia, Maggie, and Velma with 'the thing that dropped'. Maggie had found it on Friday afternoon while on her way over to her parents' house. Lt. Cagle will be glad to know his note reached us alright. Thank you, Maggie, for finding the parachute. This plane didn't scare any of us as it came over so easy and didn't roar and shake the walls of the Canyon." (ENTIRE ITEM)
- 1958 No parachute drop. *The Supai News*, (December 29): 2.
"There was no parachute drop after all as the Tribal Council met too late to give their approval. Some of the fellows at Williams Air Force Base wanted to drop gifts in here for Christmas for the United Indian Missions, Inc. Maybe next year." (ENTIRE ITEM) (But see the October 19, 1959 issue, "Playground Equipment": "This equipment was purchased by the Mission this summer with the money given by the Williams Air Force Base for the children of Supai. Since they did not have the Parachute Drop last Christmas they just mailed a check to Mr. Chambers.")
- 1959 Jet shakes Supai. *The Supai News*, (February 7): 1.
"We were all scared out of our houses on Wednesday. The windows shook, the doors flew open, and people ran outside to see what was going on. Some thought it was an earthquake. But, it was another Jet breaking the sound barrier, we guess." (ENTIRE ITEM)

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- 1959 Helicopter from Luke Air Force Base. *The Supai News*, (July 14): 1-2.
Medical evacuation for Mrs. John Marshall to the Williams Hospital.
- 1959 Helicopter here again. *The Supai News*, (August 14): 1.
"Delmer Uqualla was hurt while playing and he became worse; so on Tuesday Dr. Mills called a helicopter to take him to the hospital. About eight o'clock Tuesday evening it came in with its lights beaming down on our Valley. Dr. Mills and Mr. Collins held a gasoline lantern so the pilot could see the landing spot. It was very dangerous to come into this canyon in the dark but these brave men were willing to help a sick boy get to the hospital. We send you another great, big THANK YOU! [¶] Dr. Mills sent word on the Radio Telephone this morning that Delmer was in the Williams Hospital and was doing alright. Delmer's right eye was injured." (ENTIRE ITEM)
- 1959 Visit from helicopter. *The Supai News*, (October 19): 1.
"On Aug. 29th we were surprised to look up and see a big helicopter land in Supai. No one was sick or hurt so we were puzzled. 5 men stepped out and came over to the Gov't Agency to say they were just paying us a social call. Commanding Office of Luke Air Force Base, Col. James W. Chapman, Jr., T/Sgt. Howard Alford, Lt. Col. David Willetts, Capt. Herbert Scriber, and Capt. Walter McMeen hiked down to see the waterfalls and the rest of the valley. After a short visit with Mrs. Collins and Dr. Mills they took off to look over the rest of the Grand Canyon country. We were very happy to have these folks visit Supai and we again want to thank them for coming here so many times to pick up sick people." (ENTIRE ITEM)

Dunzweiler, Robert J.

- 1986 Tribute to Allan A. MacRae. A biographical sketch and appreciation of Dr MacRae presented on April 9, 1977, on the occasion of the celebration of the 50th anniversary of his ordination. *In*: Harris, R. Laird, Quek, Swee-Hwa, and Vannory, J. Robert (eds.), *Interpretation and history : essays in honour of Allan A. MacRae*. Singapore: Christian Life Publishers, pp. 25-29.
See p. 27, notes pertaining to MacRae's honeymoon to Grand Canyon in 1944 during which he volunteered to participate in the rescue of U.S. Army airmen who had to parachute from their stricken aircraft into Grand Canyon.

Gilbert, Helen

- 2006 "Okay, girls—man your bunks!" *Tales from the life of a WWII Navy WAVE*. Toledo, Ohio: Pedestrian Press, 157 pp. [Subtitle from cover.]
Air flight. Grand Canyon, p. 105, *in passing*.

Gilman, John E.

- 1997 Christmas in the Canyon; Arizona and California Marines deliver toys and cheer to Grand Canyon tots. *Continental Marine* (Marine Forces Reserve, Public Affairs Office), 21(4) (Fall): 10-11.
Toys for Tots helicopter delivery to the Havasupai children at Supai, Arizona.

Groening, Donald I.

- 1965 Investigation of high-speed high-altitude photography. *In*: Progress of the X-15 Research Airplane Program; Flight Research Center, Edwards Air Force Base, California, October 7, 1965; sponsored by United States Air Force, United States Navy, National Aeronautics and Space Administration. *U.S. National Aeronautics and Space Administration, Special Publication SP-90*, pp. 85-93. [Volume: Proceedings of the Fourth Conference on Progress of the X-15 Research Airplane Program. Publication originally "Classified"; now Unclassified.]
See p. 88, and illustrations on p. 93: Infrared ektachrome film "offers considerable promise in high-altitude photography, as figures 17 and 18 clearly demonstrate. Both were taken with the 6-inch

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focal-length oblique camera on the X-15-2, the black and white (fig. 17) in October 1962 and the color (fig. 18) in June 1965. Las Vegas is in the foreground with McCarran Field and Nellis Air Force Base visible. The bright red areas (in the color projection) around Las Vegas are golf courses and irrigated fields. Beyond Las Vegas is Lake Mead [*sic*] and Lake Mojave [*sic*], the latter barely visible in the black and white (fig. 17). Also on the black and white to the southwest is the mouth of the Grand Canyon and beyond that Mount Humphrey [*sic*] just north of Flagstaff, Arizona. On the ektachrome (fig. 18) to the south are irrigated fields near Needles, California, and more vegetation along the lower Colorado River until finally just below the horizon is the Gulf of California and the Colorado River delta."

Gulliford, Andrew

- 2023 Bombers below the rim. *Boatman's Quarterly Review*, 36(4) (Winter 2023/2024): 5.

Recounts the World War II flight by the author's Marine Corps father, David Gulliford, leading a formation of B-24 Liberators below the rim of Grand Canyon.

Hunt, Adrian, AND Santucci, Vincent L.

- 2011 World War II military aircraft accidents in National Park Service areas: A preliminary assessment [ABSTRACT]. *In: Rethinking Protected Areas in a Changing World : The George Wright Society Conference on Parks, Protected Areas and Cultural Sites, March 14-18, 2011, New Orleans, Louisiana : abstracts.* [No place]: George Wright Society, p. 198.

Grand Canyon noted *in passing*.

Hunt, Adrian P.; Santucci, Vincent L.; AND Lassman, David

- 2012 WWII military aircraft incidents in National Park Service units: A preliminary inventory. *In: Weber, Samantha (ed.), Rethinking protected areas in a changing world: Proceedings, George Wright Society Conference on Parks, Protected Areas, and Cultural Sites, March 14-18, 2011, New Orleans, Louisiana*, pp. 148-154.

See "Grand Canyon National Park", p. 149, B-24 parachutists in Grand Canyon, 1944.

Keton, Jeannette S.

- 2003 Everything old is new again for retired Captain Robert Wilson; from war to furlough to flying again. *Flightline* (Allied Pilots Association, American Airlines), (Spring): 12-13, 29.

See p. 12, note of Army Air Corps pilot Wilson assigned to the South Pacific during World War II. "They flew there together across the Grand Canyon, where, Wilson recalls, they ducked their new B-25 Mitchell aircraft under a cable stretched across one end." (ENTIRE NOTE)

Kleindienst, Joe

- 1993 Memories of R. E. Laws. *Grand Canyon Pioneers Society, Newsletter*, 4(1): 4.

Includes note of the 1944 army parachutists.

Lisbon, Bill

- 2010 Reserve Marines help Santa visit isolated Arizona tribe. *Desert Warrior* (U.S. Marine Corps Air Station Yuma), 9(1) (January 7): 3.

Havasupai children receive gifts via helicopter.

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Maurer, Maurer

- 1987 *Aviation in the U.S. Army, 1919-1939*. Washington, D.C.: U.S. Air Force, Office of Air Force History, 626 pp. [Author's name thus.]
- See p. 139: "The Air Service . . . made an aerial survey of the Grand Canyon for the Department of the Interior" (ENTIRE NOTE)

Maxwell, Arthur S.

- 1940 The flight of time; a survey of world events. *Signs of the Times* (Seventh-day Adventists, Mountain View, California), 67(22) (May 28): 2-3. [Item signed "by the Editor".]
- See p. 2, photograph, "U.S. Army planes making a spectacular flight over the Grand Canyon, Arizona." (No text mention; accompanies the section of this item titled, "War Comes Nearer".)

Owen, Cecil

- 2009 Buddy, can you spare an extra pair of shoes? *In: Bizarre, Fascinating, and Wacky World War I and II Secrets* [SECTION]. *The People News of Bradley County* (Cleveland, Tennessee), 12(2) (March): 19.
- B-24 Army parachutists in Grand Canyon. Information only from existing sources.

Pham, Tony

- 2001 Who are we? *Approach* (U.S. Navy, Naval Safety Center), (December): 19.
- Grand Canyon overflight noted *in passing*.

Platek, Marcin

- 2011 Marines deliver Santa Claus to isolated Grand Canyon village using his new sleigh. *Aerotech News and Review* (Journal of Aerospace and Defense Industry News), 27(47) (December 22): 6.
- U.S. Marine Corps Medium Helicopter Squadron 764, 4th Marine Aircraft Wing; CH-46E Sea Knight helicopter. Illustrated article, but aircraft not illustrated (but refer also to Platek, 2012, and Castillo, 2012).
- 2012 Marines deliver Christmas to Grand Canyon village. *Continental Marines* (U.S. Marine Corps Reserve), (1st Quarter): 22-25, inside back cover, back cover. [Cover and table of contents indicate, "Operation Havasupai".]
- Toys For Tots organization delivery to Supai. U.S. Marine Corps Medium Helicopter Squadron 764, 4th Marine Aircraft Wing; CH-46E Sea Knight helicopter.

Reed, Nathaniel P.

- 1981 (June 27) G.O.P. conservationism. *The New York Times*, (June 27): 23.
- Opinion piece includes quotation of Secretary of the Interior James Watt, who had been helicopter-extracted on the fourth day of a Colorado River trip in Grand Canyon while evaluating the oars vs. motors administrative controversy; he could not tolerate the trip any longer, even with motors speeding the trip. (See also Watt, 1981.) [The evacuation was likely with a National Park Service helicopter.]

MILITARY AND GOVERNMENT AVIATION

Roberts, Aaron

- 2011 Would my wings hold? *In*: ORM Corner [SECTION]. *Approach* (The Navy and Marine Corps Aviation Safety Magazine) (Naval Safety Center, Norfolk, Virginia), 56(3) (May/June): 12-15.

Recounting a navigation flight from Naval Air Station Jacksonville to Nellis Air Force Base, encountering severe weather in the Grand Canyon region that damaged the aircraft. (ORM: Operational Risk Management.)

Schanz, Marc V.

- 2010 Air sovereignty never sleeps; Adm. James Winnefeld, the new NORAD and NORTHCOM boss, closely monitors what's needed to defend North America. *Air Force Magazine*, (December): 54-56.

Article capped, p. 54, by illustration, "Two National Guard F-16s power over the Grand Canyon during an Operation Noble Eagle sortie." No text mention.

Spencer, James

- 2002 An ace. *Topic Magazine*, (1) (Summer).

Reminiscence of a B-17 flight in Grand Canyon, noted *in passing*.

Tessman, Norm

- 1997 The rescue of the Liberator 107 crew. (Illustration by Jack Fellows.) *Arizona Highways*, 73(7) (July): 12-15.

World War II parachutists in Grand Canyon, 1944.

- 1997 (WITH Charlotte Wolkin) "Falling into a hole of some sort": Charles Goldblum's 1944 Grand Canyon adventure. *Pittsburgh History*, (Fall): 92-104.

World War II parachutists in Grand Canyon, 1944.

Tirpak, John A.

- 2011 New life for old fighters; the A-10, F-15, and F-16 will be in the inventory for years, and the Air Force will make the most of them. *Air Force Magazine*, (February): 28-34.

See pp. 28-29, photo, "Two F-16s pass near the Grand Canyon on a training mission from Luke AFB, Ariz."

Turner, Sam

- 2013 P38s over Grand Canyon. *In*: Quail Run Writers, *Hatched : an eclectic collection from the Quail Run Writers*. [No place]: Quail Run Writers, pp. 67-68.

Boyhood reminiscences of P-38 training activities at Grand Canyon during World War II. Also notes P-51s.

Turner, S. E. [Turner, Sam], AND Fellows, Jack

- 2000 Growling, gleaming World War II planes circling the canyon delighted local boys. *Arizona Highways*, 76(12) (December): 55.

Wales, C. K.

- 1998 Toys for Tots helps 4.8 million deserving children in 50th year. *Continental Marine* (Marine Forces Reserve, Public Affairs Office), 22(1) (Winter): 14-15.

See p. 14, "Additionally, Marine Reserve helicopters delivered Santa Claus and toys to the isolated Native American Supai village at the bottom of the Grand Canyon, also in mid-December 1997."
(ENTIRE NOTE)

Watt, James

- 1981 Quotations from Secretary Watt. *Earth First!* 1(5) (May 1): 7.

Introduced by editor's note. Quotations (unverified in this bibliography) from Secretary of the Interior James Watt, who famously insisted on an aerial evacuation from a Colorado River trip in Grand Canyon. The pertinent quotation: "I went down in September on the Grand Canyon Colorado River and the test, of course, as all of you are familiar, is whether we ought to keep the motors on those rafts or not. The first day was spectacular. I'll tell you that it was an exciting thrilling day. The second day started to get a little tedious, but the third day I wanted bigger motors to move that raft out. There is no way you could get me on an oar-powered raft on that river—I'll guarantee you that. On the fourth day we were praying for helicopters and they came." The editor concludes the list of quotations, "(Really, no shit, Watt said all this!)" — The privileges of station and rank.

Webb, Roy

- 2013 Falling into the Canyon: The 1944 airmen's surprise visit to the Grand Canyon. *In*: Quartaroli, Richard D. (compiler, ed.), *A rendezvous of Grand Canyon historians : ideas, arguments, and first-person accounts : proceedings of the Third Grand Canyon History Symposium, January 2012*. Flagstaff, Arizona: Grand Canyon Historical Society, pp. 213-215.

Army aviators, forced to parachute from stricken aircraft, fall into Grand Canyon.

Zimmerman, Susan

- 2012 The unsolved mysteries of the Doolittle raid. *WWII Quarterly*, (Summer): 62-71.

See p. 56, brief note of training including flight "through the Grand Canyon and as close to its walls as possible" (quoting an uncredited source).



6

ROTORWING AVIATION

HELICOPTERS ARE ubiquitous in Grand Canyon aviation today—air tours, medevacs, search and rescue, administrative travel, logistical transport, and scientific study flights by federal and other agencies all feature prominently. The most frequently encountered helicopters are those of the dozens of daily air tours (see “[Tourism](#)” herein). Military flights also are to be noted (for which see under “[Military Aviation](#)”), of which not surprisingly most flights are to the remote village of Supai on the Havasupai Indian Reservation, deep in Havasu Canyon, which were medevacs of Havasupai individuals (noted under “[Military Aviation](#)”). Various other government agencies conduct evacuation flights following floods, while the delivery of large, heavy objects to the village are commercially consigned missions. All require the use of helicopters in confined spaces. Within the national park, helicopters also are used for heavy-lift jobs, such as with the delivery of construction equipment to inner canyon sites. And numerous helicopter accidents, many with fatalities, have been noticed in magazines and books (see under “[Aviation Accidents](#)”)

Anonymous

- 1948 A world “first”. *The Witness* (Episcopal Church, Chicago and New York): 31(13) (May 6): 13.
 Quonset hut delivered in sections by helicopter to Supai, to be used as the St. Andrews Episcopal missionary chapel.
- 1948 Quonset by air. *In*: Here and There on the Desert [SECTION]. *Desert Magazine*, 11(8) (June): 32.
 Quonset hut delivered in sections by helicopter to Supai, to be used as the St. Andrews Episcopal missionary chapel.
- 1950 Rescue by helicopter. *In*: Here and There on the Desert [SECTION]. *Desert Magazine*, 13(10) (August): 35.
 Regarding the Colorado River downrun through Grand Canyon of the *Esmeralda* and *Hudson*. Item credited to *Tucson Daily Citizen*. [Figurative logistical episode; not a health emergency.]

ROTORWING AVIATION

- 1951 Flying gas station. *Popular Mechanics Magazine*, 95(1) (January): 90.
Gasoline to refuel boats on Colorado River delivered by helicopter. Includes photo.
Hudson/Marston Colorado River trip of 1950. The boat shown in photo is the "Hudson" (fide Richard D. Quartaroli, December 2010.)
- 1957 Helicopter builds an aerial span to guano cave in Grand Canyon. Big vacuum cleaner to be used to mine deposit left by giant, meat-eating bat millions of years ago. *The New York Times*, (March 27): 43.
Bat Cave.
- 1957 Copter lays aerial-tram cable. *In*: Picture News [SECTION]. *Popular Science Monthly*, 170(6) (June): 97.
Bat Cave.
- 1957 'Copter in the canyon; tramway from South Rim to Bat Cave of Grand Canyon will transport bat guano. *Santa Fe Magazine*, 50(8) (July): 28-29.
- 1959 Helicopters ease Grand Canyon power line job. *The New York Times*, (December 19): 33.
Arizona Public Service Company constructs a 2½-mile 12,000-volt electric line from the South Rim to Indian Gardens [Havasupai Gardens]. APS services the area since 1954 when properties were purchased from the Santa Fe Railway.
- 1965 Goldwater is airlifted over Colorado rapids. *The New York Times*, (July 8): 15.
Barry Goldwater party on the Colorado River was air lifted past rock-filled Hance Rapid. The river was flowing at the very low rate 1,200 cubic-feet-per-second due to the filling of Lake Powell behind Glen Canyon Dam.
- 1970 Helicopters lift men, machines to Grand Canyon repair job. *Contractors and Engineers Magazine* (Pittsfield, Massachusetts), 67(1) (January): 10.
Bright Angel Creek bridges.
- 1997 Stor redningsaksjon. [*transl.* 'Major rescue operation.'] *NHF nytt* (Norsk Helikopteransattes Forbund, Sola, Norge), 8(4): 5. [*In Norwegian.*]
Brief news item regarding two UH-60 National Guard helicopters and four private aircraft used to evacuate 400 people from Supai, Havasupai Indian Reservation, following floods.
- 2001 Spring evacuations keep NPS recue copter busy. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 5(2) (Summer): 22.
"Gathered from NPS Morning Report".
- 2002 [Comment.] *In*: Helicopter rescues . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24.
Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology. This item signed "Charlie". From gcpba@yahoo.com; ellipsis is part of feature title.
- 2011 Modular classroom to be helicoptered into Grand Canyon. *Indian Affairs* (U.S. Bureau of Indian Affairs, Office of Facilities, Environmental and Cultural Resources, Management Summary), (April): 1.
Havasupai Elementary School, Supai, Arizona. Brief item includes photo with legend, "A helicopter lowers building materials into Supai village in the Grand Canyon for a 2002 Office of Justice Services employee quarters construction project."

ROTORWING AVIATION

- 2015 Presenting the 2015 Pathfinder Award recipients: Michael P. Anderson, Elling Halvorson, Alan Mulally. *Aloft* (Museum of Flight, Seattle, Washington), 37(4) (July/August): 16-17.
Halvorson award (p. 17) notes Grand Canyon work, including the transcanyon water pipeline.

Advantage Fitness Products

- 2005 Precor at Supai: The EFX has landed! *The Precor Pulse* (Advantage Fitness Products), (January): 3.
Delivery to Supai by helicopter of an EFX® Elliptical Fitness Crosstrainer™ exercise machine for diabetes abatement programs.

Bennion, Joe

- 2008 Not your usual take-out. *Boatman's Quarterly Review*, 21(2) (Summer): 48.
Helicopter removal of dory from top of Deubendorf Rapid (rapid not shown).

Dean, Paul

- 1985 Arizona by skyhook. *Arizona Highways*, 61(2) (February), cover, inside front cover, 1, 2-15, 36-47, inside back cover, back cover.
Aerial views and visits include Grand Canyon.

Fonze, Tony

- 2004 Flying the canyon. *Autorotate* (Professional Helicopter Pilots' Association), 3(8) (November/December): cover, 3, 4-9.

Hester, Amanda

- 2009 Introducing Sharon Batala. *Vanguard* (U.S. Department of Veterans Affairs, Washington, D.C.), 55(6) (Winter 2009/2010): 30.
Sharon Batala (Hopi), of the VA Readjustment Counseling Service, who works with rural Hopi and Navajo veterans. Article begins with remark on the sacred place that the Grand Canyon is to the Hopi, and notes that Batala is "flown in by helicopter to reach the elderly and disabled veterans who live deep in the Canyon", noted only as "the Supai veterans". The Havasupai are not mentioned by name, nor is Havasu Canyon, even though a photo of Batala is at one of the Havasu Creek waterfalls. The remainder of the article focuses on Hopi.

Kaman Aerospace

- 2020 *Power and precision : K-MAX 2020 calendar : Kaman Aerospace*. [No place]: Kaman Aerospace.
See February, "In an area where salvage operations are challenging, Mountain West Helicopters lifts a fallen vehicle out of the depths of the Grand Canyon." Photo courtesy of National Park Service.
Calendars, as ephemera, are not generally cited in this bibliography, but this item is cited for its unusual contextual illustration in this category, in a source not likely to be easily relocated. "K-MAX twin intermeshing servo flap controlled rotors . . . [eliminate] the need for a tail rotor drive train and hydraulic systems"

Keating, Bern

- 1976 *Chopper! The illustrated story of helicopters in action*. Chicago, New York, and San Francisco: Rand McNally and Co., 223 pp.
See pp. 67-69, 161-162.

ROTORWING AVIATION

Pociask, Martin J.

- 2002 Elling Halvorson HAI chairman, driving spirit for the helicopter industry. *Rotor* (Helicopter Association International), (Summer): 4-5.
- 2010 Elling Halvorson. *In*: HFI Heritage Series. *Rotor* (Helicopter Association International), (Winter 2010-2011): 36-46.
 Helicopter Foundation International.

Scafuri, Jenna

- 2018 Flying in the Grand Canyon: A dream job with unique challenges. *Rotor* (Helicopter Association International), (Spring): cover, 1, 16-19.
 Grand Canyon National Park helitack team.

Simpson, C.

- 1975 Helicoptering in to Havasupai. *Westward* (Prescott Courier), 2: (October 10): 3-5+.

Tallon, James [Tallon, Jim]

- 1960 'Copter in the Canyon. *Arizona Days and Ways*, (September 11): 28-30.
- 1966 The grocery truck to Supai Canyon. *Arizona Days and Ways*, (October 2): 14-16.
 Helicopter to Supai in Havasu Canyon, Havasupai Indian Reservation.

U.S. Department of the Interior, Office of Indian Affairs, AND Office of Facilities, Environmental and Cultural Resources

- 2012 Havasupai Elementary School's modular classroom arrives via helicopter. *U.S. Department of the Interior, Office of Indian Affairs, and Office of Facilities, Environmental and Cultural Resources, Management Summary*, 1 p.

Valentry, Duane

- 1958 Spinning the time thread; after lying undisturbed for centuries, a fortune in fertilizer is being brought to market thanks to the helicopter and modern knowhow. *Flying*, 63(3) (September): 32-33, 66-67.
 Helicopter assists in cable construction for Bat Cave tram.

Wilford, John Noble

- 1972 Copters and lasers map Grand Canyon. *The New York Times*, (July 19): 39, 75.
 Relates to the mapping of Grand Canyon by Bradford Washburn.
- 1981 *The mapmakers*. New York: Alfred A. Knopf, 415 [418] pp. [Dust jacket adds subtitle, "The story of the great pioneers in cartography—from antiquity to the space age".]
 Regarding Bradford and Barbara Washburn's mapping of the Grand Canyon, which included flying to locations atop buttes inside the canyon, see various texts: p. xi; "Prologue at Dana Butte", pp. 3-5; "Yaki Point", pp. 89-92; "Bright Angel Point", pp. 227-229; "The Flight Out", pp. 323-324; "Epilogue at Bright Angel", pp. 387-390; see also pp. 206-215, 252.
- 1981 *The mapmakers*. London: Junction Books, 414 pp.
- 1982 *The mapmakers*. New York: Vintage Books, 415 [417] pp. [Cover adds subtitle, "The story of the great pioneers in cartography from antiquity to the space age".]

- 2000 *The mapmakers*. New York: Alfred A. Knopf, revised ed., 508 [511] pp. [Dust jacket adds subtitle, "The story of the great pioneers in cartography—from antiquity to the space age."]

Regarding Bradford and Barbara Washburn's mapping of the Grand Canyon, which included flying to locations atop buttes inside the canyon, see various texts: pp. xi, "Prologue at Dana Butte", pp. 3-5; "Yaki Point", pp. 107-110; "Bright Angel Point", pp. 265-267; "The Flight Out", pp. 369-371; "Epilogue at Bright Angel", pp. 469-473; see also pp. 241-252, 296; and see dust jacket illustration.



LIGHTER-THAN-AIR AVIATION

BALLOON AND OTHER lighter-than-air aviation systems are not usual at the Grand Canyon, though they do deserve their own attention in this broad bibliographical survey. Ideas for drifting over the canyon have gone back to the beginning of the 20th century; perhaps most peculiar was the proposed Lowe Planet Airship (see the [Frontispiece](#) herein), which a promoter imagined casually sailing over the canyon. Although the canyon is notorious for its air currents at different times of the day and weather, balloon flights (at least one) have successfully crossed the canyon, and the idea for flying blimps here has not been wholly discounted.

Anonymous

- 1971 Across Grand Canyon in a basket. *Life*, 71(22) (November 26): 88-89.

Wicker-basket hot-air balloon was solo piloted by Robert Waligunda safely across the canyon; part of a 10-week balloon tour of the U.S. for "The Great American Balloon Adventure," a Life special to be aired on television on the Alcoa Hour November 30. The flight was one hour and traveled 15 miles.

- 2020 Ballon WSPR. Le ballon APRS et WSPR—Indicatif d'appel de vol W5KUB-17. [*transl.* 'WSPR Balloon. The balloon APRS and WSPR—Flight call sign W5KUB-17.'] *RAF* (La revue des Radioamateurs Français et Francophones) (Radioamateurs France, Tourves), 2020(7) (July): 33-34. ("Informations sur le ballon W5KUB-18". [*Information about the W5KUB-18 balloon.*']) [*In French.*]

Partial signal-tracked log for the global transit of the weather-balloon-like "ballon W5KUB-18", launched May 1, 2020, flying at altitudes greater than 40,000 feet. Notes for days 25-38 (June 14-18): ". . . enfin réussi à traverser le Pacifique. Je me suis réveillé à Las Vegas (17 juin) et j'ai traversé le Grand Canyon." [*transl.* '. . . finally made it across the Pacific. I woke up in Las Vegas (June 17) and traversed the Grand Canyon.'] (ENTIRE NOTE)

APRS-WSPR: Automatic Packet Reporting System, Weak Signal Propagation Reporter.

Aerial Publishing Company

NO DATE *The latest development in aerial navigation. Lowe Planet Airship.* Los Angeles: Aerial Publishing Co., 52 pp. [Ca. 1910.]

Prospectus. Grand Canyon, *in passing*, pp. 11-12, 45. (See also Lowe Airship Construction Corporation [1990].) (See the [Frontispiece](#) in the present volume.)

Barnard, Charles N., AND Slattery, Chad

1998 Blimps: Big, beautiful and everywhere you look. *Smithsonian*, 29(3) (June): 30-.
Hope for Grand Canyon overflight noted *in passing*, p. 34.

Carmony, Tom

2000 Balloon crossing of the Grand Canyon. *The Bulletin* (Grand Canyon Pioneers Society), 4(7): 3.
Cited here as a note of disambiguation—*actually pertains to Grand Canyon du Verdon, France*.
See also Tom Gallagher (2005).

Gallagher, Tom

2005 Balloon crossing plaque. *The Bulletin* (Grand Canyon Historical Society), 9(2): 4.
Actually pertains to Grand Canyon du Verdon, France. Cited here as a note of disambiguation.

Lowe Airship Construction Corporation

1990 *T. S. C. Lowe and his Planet Airships : the story of the man who mastered flight.* [No imprint], 24 pp.
Pamphlet. Grand Canyon, see pp. 14, 20, 21. (See also Aerial Publishing Co. [ca. 1910].) (See the [Frontispiece](#) in the present volume.)

Maruf, Sitara

2017 Gas balloon races test skills, endurance, and luck. *Lighter than Air Flight Magazine* (Maryland), (5) (Winter 2017) (December 2016/February 2017): 2-9.
See p. 5, "The French team came to America's Challenge with a different goal, and they charted a different route by flying west [from Albuquerque, New Mexico]. Their aim was to fly over Grand Canyon and land in Utah which nobody in America's Challenge had done before." However, see p. 6, "The French team brought their balloon down on the Navajo reservation of Eastern Arizona, near White Ruin, after flying for 15 hours, and achieved an America's challenge first of a different kind by flying west. They were very pleased with their scenic flight and the memorable welcome by the locals."

Waligunda, Bob, AND Sheehan, Larry

1981 *The great American balloon book : an introduction to hot air ballooning.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 246 pp. (The Motorless Flight Series.)
Grand Canyon, see p. 87. Brief.



WINGSUIT AND OTHER BODY FLIGHT

ONE OF THE more unusual types of aviators at Grand Canyon—anywhere, actually—are those who run off cliff faces with hang gliders or who take off in small-motored paragliders. Then, there are those who jump from aircraft to glide in wingsuits—large aerodynamic surfaces with a human affixed, like flying squirrels. Some of them take it a step further, with miniature jet engines attached. It comes as no surprise that the Grand Canyon attracts all of these aviators; from around the world no less. It is, after all, the most well known and photogenic large chasm, seemingly just calling for an individual's show flyover—high altitudes, long distances, stunning scenery, and the threat of a hazardous landing if they neither make it all the way over or plan carefully ahead for a landing spot. Some conclude their flights by deploying a parachute. But a word of cautionary advice: such flights are not legal within the national park; all of the flights that have been made were done (with approvals and payments) usually over Native American lands along the run of the canyon. That said, the first hang-gliding trip was made in 1970 by Bill Moyes, credited as the father of hang gliding, from the rim to near Phantom Ranch at the bottom (five miles in eight minutes, followed by arrest and fines).

Anonymous

1980 International award to Bill Moyes. *Skysailor* (Australian Hang Gliding Association, Sydney University, New South Wales), (September): 4.

Citation presented to Moyes by Federation Aeronautique Internationale. The citation is quoted (in English), including the note, "His famous Grand Canyon flight was in July 1970 when he launched from the South Rim and flew nearly 5 miles." (ENTIRE NOTE) (Moyes landed near Phantom Ranch. An illegal flight, though the first to hang-glide in the canyon.)

[See also 1988.]

WINGSUIT AND OTHER BODY FLIGHT

- 1988 Father of hang gliding, Bill Moyes. *Skysailor* (Hang Gliding Federation of Australia, Sydney, New South Wales), (January): 5-7.
Includes remarks on Moyes' (illegal) eight-minute flight from the South Rim of Grand Canyon to the Colorado River (pp. 6-7) and photo (p. 5), "Bill flying the Grand Canyon". (The flight was in July 1970.)
- 1995 Hang gliding at Grand Canyon. *O' Pioneer* (Grand Canyon Pioneers Society), 6(5) (May): 4.
- 2006 The locals' connection: Gliding home. *A Peak Inside* (Mountain Culture at The Banff Centre, Banff, Alberta), (Spring): 3.
Will Gadd paragliding over Grand Canyon as documented in his 2005 film, *Grand Canyon Dreams*. See also p. 8.
- 2007 Wings that can make you fly! *International Aerospace* (March/April): 22-24.
Fusion Man Yves Rossy; jet-powered human flight. Notes plan to fly in Grand Canyon, *in passing*, p. 24.
- 2009 Innovation; Fusion Man; Yves Rossy has wings that let him play in the element. *Outlook* (Jet Aviation), 2009(1): 30-37.
Jet-powered human flight. Plan to fly in Grand Canyon, *in passing*, p. 36.
- 2011 Breitling's "JetMan" chooses Grand Canyon West for his first U.S. flight. *Gamyu* (Hualapai Tribe), (10) (May 13): 3-4.
Reproduces a press release dated April 25, 2011.
- 2011 Dreams take flight. *Take Off* (Singapore Youth Flying Club, Singapore), (August): 13.
Yves Rossy; "his first successful flight in the U.S. with his momentous flight through Grand Canyon West".
- 2012 Born in the USA; Glenn Tupper flies the Grand Canyon on the road trip of his life. *Paramotor* [England], (29) (February/March): 26-.
Motorized paraglider flight.
- 2015 Schweizer fliegt über Grand Canyon. [*transl.* 'Swiss flies over Grand Canyon.'] *20 Minutem* (Zürich), (April 22): 8-9. [*In German.*]
Brief item regarding unpowered flight in a wingsuit over Grand Canyon by Roger Hugelshofer.

Brasfield, Samuel P.

- 2008 *Innovations in air insertion (involving parachutes)*. Thesis, Naval Postgraduate School, Monterey, California, 111 pp.
See section, "Design of the Modern Wing Suit", with illustration (but no text discussion), Figure 4, p. 20, "Patrick de Gayardon flying his wingsuit from one side of the Grand Canyon to the other." (Wingsuit flight at Grand Canyon West.)

Darling, David

- 2013 *The rocket man and other extraordinary characters in the history of flight*. London: Oneworld Publications.
See "Jetman", regarding Yves Rossy, which includes his flight over the Grand Canyon.

WINGSUIT AND OTHER BODY FLIGHT

Gadd, Will

- 2005 Grand Canyon dreams; Will Gadd climbs to 17,800 ft to make the glide of his life. *Cross Country* (International Free Flying Magazine), (98) (March/April): 58-61.
Paraglider flight from south of Grand Canyon to Kaibab Plateau.

Habib, William G.

- 2004 Winged migration; paraglider Will Gadd soared into the record books with a harrowing solo flight across the Grand Canyon. *Sports Illustrated*, (October 11).
Four-hour flight from south of Grand Canyon to Kaibab Plateau.

Kalyani, Kesana

- 2016 Jet Man. *Xtronics* (The Monthly Technical Magazine; Under the Aegis of Veda) (Sri Vasavi Engineering College, Department of Electronics and Communication Engineering, Pedatadepalli, Tadepalligudem, Andhra Pradesh, India), (1) (July): [12].
Regarding wing-suit flyer Yves Rossy, with note of plan to fly "through the Grand Canyon"; but the next paragraph indicates: "Update: Yves Rossy has completed his flight over the Grand Canyon. He jumped out of a helicopter at 2,440 metres (8,000 feet) and soared over the Canyon at 330 km (205 mph) for eight minutes before deploying his parachute. [¶] 'My first flight in the US is sure to be one of the most memorable experiences in my life, not only for the sheer' [text truncated thus].

Martel, Daniel

- 2008 Blériot mit Düsen—Fusionman in England. [*transl.* 'Blériot with jets—Fusionman in England.'] *SkyNews.ch* (Das aktuelle Magazin der Schweizer Luftfahrt, Teufen ZH, Switzerland), 5(11) (November): 14. [*In German.*]
Jet-powered human flight by Fusionman, Yves Rossy. Notes plan to fly in Grand Canyon, *in passing*. (Blériot refers to early French aviator, inventor, and engineer Louis Blériot.)

Paiva, Fred Melo

- 1998 Brincando Deus; Patrick de Gayardon, 1960-1998. [*transl.* 'Playing God . . .'] *Trip* (São Paulo, Brazil), (62) (June): [105]-110 [probably]. [Serial contains material for mature audience (nudity) but this article does not.] [*In Portuguese.*]
Remarks including note of his having parachuted with wingsuit into Grand Canyon; *i.e.*, Grand Canyon West.

Pilkington, George

- 1997 Beyond the edge. *In*: The Word [on] The Street [COLUMN]. *Sport Parachutist* (British Parachute Association, Glen Parva, Leicester), (December): 5. [Cover gives serial date as December 1997/January 1998.]
Regarding Patrick de Gayardon. "Adrian Nicholas has flown camera for Patrick on some of these jumps. AD was wearing 16mm cameras to film jumps in Chamonix, France and the Grand Canyon, USA."

Rhodes, Chuck

- 1978 To become an eagle; flying into the Grand Canyon. *Hang Gliding*, (September): 42-46.

Rossy, Yves, AND Rapaz, Jean-Marc

- 2011 "Je dois me pincer pour être sûr de ne pas rêver". Pionnier génial pour les uns, dérangé pour les autres, Yves Rossy ne laisse personne indifférent. Qu'importe, il poursuit son rêve de gosse. Au-dessus de la Manche ou entre les falaises du Grand Canyon, il vole comme l'oiseau. [*transl.* "'I have to pinch myself to make sure I'm not dreaming." A brilliant pioneer for some, a deranged man for others, Yves Rossy leaves no one indifferent. No matter what, he's pursuing his childhood dream. Above the English Channel or between the cliffs of the Grand Canyon, he flies like a bird.'] *Générations Plus* (Lausanne), (26) (July/August): cover, 6-9. [*In French.*]
Rossy interviewed by Rapaz. Includes various remarks by Rossy about his Jet Man flight over Grand Canyon.]

Shute, Nancy

- 2011 If we only had wings. *National Geographic*, 220(3) (September): cover, 66-79. [Cover title: "Can We Fly?"]
See p. 76, photo of Patrick de Gayardon soaring in nylon wing suit over Grand Canyon, and reference to Yves Rossy's jet-powered body flight over Grand Canyon.

Srinivasan, V. R.

- 2012 Vivez til la limito: *Jet-viro* flugas alte supera Rio de Janeiro. [*transl.* 'Live to the limit: Jet man flies high above Rio de Janeiro.'] *ALI: Aziana Letro Ide* (Chennai, India), (7) (June 7): 8-9. [Cover displays logo used for Ido, Linguo Internaciona Universala.] [*In Ido, an artificial language.*]
Regarding Yves Rossy, "Jet Man". Includes note (p. 9) of Rossy's 2011 flight over Grand Canyon.

Weed, William Speed, AND Carnett, John B.

- 2003 The flight of the bird men. *Popular Science*, (July): 55-58, 60.
See p. 57, Grand Canyon, *in passing*; Patrick de Gayardon at Grand Canyon West with wingsuit.



AEROBATICS AND STUNTS

AEROBATIC FLYING comes in all kinds, from supersonic military flights in close quarters to bungee jumping from helicopters. It seems that most things have been done at Grand Canyon (little surprise); and other than the earlier years of military flight, to around the 1970s, everything has been done outside of the national park. The canyon admittedly offers a wild training site for military pilots, and stories from some “old-timers” recall their wartime sneaks to the canyon. See in the “[Military Aviation](#)” section herein, from among which citations the following is repeated here as a fine example, where a compilation of comments includes the editor’s prefatory note:

“Because we are certain (no really, we’re *certain!*) that none of our membership ever engaged in the dubious shenanigans described, we present this purely as a historical study of the odd social dynamics that can occur among people to habitually strap on several tons of aluminum and explosives and fly it on the deck into a combat zone. Or into any zone for that matter.” See an anonymous contributor’s note on p. 12: “I miss flying upside down in the Grand Canyon and hearing about flying so low boats were blown over.”

(“A Military Aviator Tribute,” *Straight Scoop* [Pacific Coast Air Museum, Santa Rosa, California], Vol. 19, no. 2 [February 2014], pp. 11-12.)

Some just plain stunts, not really aviation-centered but nonetheless “in the air,” also have been performed, such as riding a skateboard up a high ramp to arc out over the Little Colorado River gorge before deploying a parachute. All for the camera, of course.

Anonymous

2008 Confessions of a now-retired aviator. *Falco Builders Letter*, (June): 14.

Photo spread of N520H biplane aerobatics in unsanctioned situations, including Grand Canyon and Navajo Bridge. Article signed “anonymous”.

AEROBATICS AND STUNTS

- 2019 Ala Stanford. *In*: News from SBAS Women in Surgery Committee [SECTION]. *The Society of Black Academic Surgeons, Newsletter* (SBAC Membership Committee), (5) (Spring): [2].

"Ala Stanford, MD, FAAP, FACS was responsible handling ATLS [Advanced Trauma Life Support] for the epic Will Smith: The Jump that occurred at the Grand Canyon. The event raised money for education for urban and underserved youth and commemorated his 50th birthday. Her medical team cleared all airborne participants in the production prior to their involvement in the event. Additionally, they provided medical oversight for local first responders at the Grand Canyon and provided acute care on site." (ENTIRE ITEM)]

This relates to the publicized stunt by actor Will Smith, who bungee jumped from a helicopter over the Little Colorado River Gorge on September 25, 2018, which was streamed live on the web via YouTube as part of Youtube Originals. The produced program, "Will Smith—The Jump", is accessible at <https://www.youtube.com/Watch?v=aHCz1ZMI290> (accessed May 1, 2019), 1:25:30.

Balmaceda, Katrina

- 2012 Jets! Camera! Action! How movie props take flight in Tinseltown. *JetGala*, (May/June): 50-53.

See sidebar, "Aerial Ace", which notes, *in passing*, stunt pilot Dave Riggs' participation in a jet dogfight over Grand Canyon.

Bond, Constance

- 1982 A dicey stunt that turned real. *Smithsonian*, 13(9) (December): 160-161.

Brechner, Berl

- 1984 There's no business like Scholl business; when the script calls for an airplane, the producers call for Art Scholl. *Flying*, 111(1) (January): 40-46.

See p. 46, recounting a wing-walking stunt filmed over Grand Canyon.

Croy, Homer

- 1921 It looks easy. *Saturday Evening Post*, 194(19) (November 5): 14, 54, 59-60.

Stunt photography. Mentions aerial motion pictures made "some time ago" through Grand Canyon, p. 54.

Martin, Tom

- 2024 *Dock Marston : Grand Canyon's Colorado River running historian. Volume 1*. Flagstaff, Arizona: Vishnu Temple Press, 560 pp.

"*Dock Marston: Grand Canyon's Colorado River Running Historian, Volume 1* was originally published in 2022 as *Dock Marston: The Colorado River Historian, Volume 1* in a series of Kindle ebooks on www.Amazon.com." (title-page verso)

Includes errata slip laid in, on comparable glossy paper, for p. 185, which replaces a misprinted photo. The photo as printed shows a powerboat on the river; the replacement shows an airplane about to fly under Navajo Bridge, as seen from the bridge. The legend printed on p. 185 is correct for that intended photo, "Norm[an Nevills] lines Cherry II up for a run under Navajo Bridge. This July 1949 photo courtesy GRCA."

McCormac, Patty

- 2016 Drone pilot capturing northland adventures; Chad de Alva follows skiers, climbers, semi trucks for captivating footage. *Flagstaff Business News* (Flagstaff, Arizona), 9(12) (December) 10, 27.

Includes passing remarks of having worked with National Geographic in Grand Canyon; with the BBC that contributed to "a documentary about the proposed and controversial Grand Canyon

AEROBATICS AND STUNTS

Tramway" (Grand Canyon Escalade); and filming six racing semi trucks on "State Route 89A closed between Marble Canyon and the Grand Canyon". (Unoccupied aerial vehicle.)

Nogueira, Bruno Torturra, AND Koehler, Kelly

- 2009 X-man. *Trip* (São Paulo, Brazil), (174) (February): 6-15. [Publication contains material for mature audience (nudity) but this article does not.]

Including skateboard-parachuting into "Grand Canyon", *i.e.*, Little Colorado River gorge.

R., S.

- 2013 Vorsicht, schwebende Models! House running, bungee und stunts—Sport Unlimited setzt spektakuläre Wünsche professionell in Szene. [*transl.* 'Watch out, floating models! House running, bungee jumping, and stunts—Sport Unlimited professionally stages your spectacular dreams.'] *Megazin* (Ingoldstadt, Germany), 18(203) (April): 20-21. [*In German.*]

See p. 21, references to stunt performed by Stefan Roos, "Heli-Bungee-Sprung in den Grand Canon fürs englische Fernsehen" (a bungee jump from a helicopter into Grand Canyon staged for English television); not otherwise identified. A photo view upward also shows Roos jumping from a helicopter.



10

AVIATION INFRASTRUCTURE AIRPORTS, AIRSTRIPS, AND APPURTENANT FACILITIES

GROUND FACILITIES tend to be overshadowed by the the aviators and their aircraft on their ways to and over the Grand Canyon. But they are critical parts of the aviation experience. As noted in the “[First Flights](#)” section, among the initial activities of aviators around and in the Grand Canyon was the search for suitable landing sites. The first truly maintained landing strip near Grand Canyon is the historic Red Butte airfield (also featured in the “[Tourism](#)” section); no longer actively in use but retains significant historical value, enough to have had a book written about it. But aviators are also keenly concerned about the conditions of loosely maintained air strips in the backcountry, such as the one in the national park at Tuweep, the commercial strip at the Bar 10 Ranch, both in western Grand Canyon, and the strip at Marble Canyon, often overlooked except by the few river-trip concessionaires that may fly their passengers there for the start of a Grand Canyon trip. Aviation enthusiasts occasionally report on efforts to keep up these strips—and to keep them open, too. Even such seemingly trivial items like the installation of artificial turf around a wind sock earn attention.

Anonymous

- 1938 Boulder City and Grand Canyon to have 6-7,000-foot runways. *American Aviation*, 1(16) (January 15): 5.
- 1963 Air age moves in on Grand Canyon park. *In*: News Briefs from the Conservation World [SECTION]. *National Parks Magazine*, 37(February): 18.
- “The Department of the Interior and the Federal Aviation Agency will jointly finance the construction of an airport near Grand Canyon National Park”
- 2003 [Red Butte airfield.] *The Thermal Flyer* (Arizona Hang Glider Association), 28(9) (September): 2-3.

AVIATION INFRASTRUCTURE

- 2007 Tuweep airport at Grand Canyon—RAF cooperates with APA and UBCP; closure reversed. *Recreational Aviation Foundation, News Action*, 4(1) (Summer): 4-5.
Arizona Pilots Association; Utah Back Country Pilots.
- 2009 Grand Canyon West Airport takes flight. *Integrated Water Services, Inc.* (Avon, Colorado), (Fall): 10.
Regarding construction of onsite wastewater facility.
- 2010 Airport Pavement Management System (APMS) 2011 preservation projects. *Prop Wash!* (Arizona Department of Transportation, Multimodal Planning Division, Aeronautics Group), 2(1) (December 31): 3.
Grand Canyon National Park Airport listed among “confirmed participants” for projects.

Arizona Pilots Association

- 2007 Help the Arizona Pilot’s [sic] Association save the Tuweep airstrip (L50). *The Aviator* (League of Extraordinary Aviators), 2(2) (November 14): 3-4.
Excerpts from the Arizona Pilots Association website.
- 2014 *Grand Gulch airstrip information : your partners in the AZ backcountry*. [No place]: Arizona Pilots Association, folded pamphlet.

Armstrong Consultants

- 1997 *Airport master plan for Grand Canyon West Airport : draft report*. Grand Junction, Colorado: Armstrong Consultants, Inc., for Hualapai Indian Nation, Peach Springs, Arizona, SEPARATELY PAGINATED SECTIONS.

Colyer, W. T.

- 1919 Aviation and fire protection. *National Fire Protection Association, Quarterly*, 13(2) (October): 114-120.
In anticipation of aerial development. See p. 119: “Probably hotel or club accommodations will not be long in taking their place as necessary adjuncts to airdromes, particularly such as may be established among the Rocky Mountains or near the Grand Canyon in Arizona—to quote likely spots. It is fairly safe to predict that, unless full weight is given to considerations of fire prevention and protection when such airdromes are planned, a number of serious fires will occur on these properties.” (ENTIRE NOTE)

Dulhanty, Sheila

- 2012 Former AZ airport manager sees widespread applications for synthetic turf. *Arizona Aviation Journal*, (7) (March/April): 12.
Evan Money. Grand Canyon West noted *in passing*, and with photograph of “completed project at Grand Canyon West”, which illustrates artificial turf surrounding airfield wind sock.

Durtschi, Steve

- 2003 From UBCP. *Air Mail* (Utah Back Country Pilots), 2(3) (February): 1-2.
See “Wind Socks” (p. 2, installation of windsock at Grand Gulch Mine airstrip), “Disappointment at the Grand Gulch” (p. 2, regarding defacing of structures at Grand Gulch Mine).
- 2006 UBCP President’s message. *Air Mail* (Utah Back Country Pilots), 5(1) (Spring): 1-2.
See p. 2, regarding Tuweep air strip closure.

AVIATION INFRASTRUCTURE

Hawkins, Mark

- 2006 Tuweep update. *Air Mail* (Utah Back Country Pilots), 5(1) (Spring): 4-5.
 Tuweep air strip closure.

Hilburn, Hal

- 2002 Brush pilot—Southern Utah report. *Air Mail* (Utah Back Country Pilots), 2(1) (June): 6-7.
 Tuweep airstrip, see p. 7.
- 2003 Southern Utah report. *Air Mail* (Utah Back Country Pilots), 2(3) (February): 4.
 Air strip checks. Includes Bar 10 Ranch and Tuweep airstrips.

Kimley-Horn [Kimley-Horn and Associates, Inc.]

- NO DATE *Aviation*. [No place]: Kimley-Horn and Associates, Inc.
 See "Airside Services", p. [9]; photo and legend, "Grand Canyon National Park Airport opened its runways to larger aircraft—including 727s and even Air Force One—thanks to our pavement services."

Koontz, Giacinta Bradley

- 2012 (WITH Gene Tissot) *The original Grand Canyon Airport : a 1930s scrapbook of life at Red Butte Aerodrome, Arizona*. Prescott, Arizona: Running Iron Publications, 102 pp.

Kounis, John T.

- 2009 Flightplan [EDITORIAL PAGE]. *Pilot Getaways*, (November/December): 4.
 Includes note, "[The Recreational Aviation Foundation] also included efforts to prevent closure of Tuweep (featured in Spring 2000), which was my favorite airstrip in Arizona, tucked into a side canyon [sic] of the Grand Canyon . . ." (ENTIRE NOTE) (For Spring 2000 item see under Anonymous.)

Krauss, Judi

- 2019 Airport spotlight; Grand Canyon West; Grand Canyon West Airport (GCW). *In*: ADOT Corner [SECTION]. *AzAA Matter of Fact* (Arizona Airports Association), (November): 6.

Moody, Margaret

- 1968 San Diego Chapter. *Ninety-Nine News* (The Ninety-Nines, Inc., International Organization of Women Pilots, Oklahoma City, Oklahoma), (February): 28.
 Includes note, "Lois and Harry Bartling spent some time at the Grand Canyon. They report that the new airport and facilities are tremendous and they had a wonderful time seeing the sights."
 (ENTIRE NOTE)

Muller, Seth, AND Calleri, Fred

- 2006 Rescue of a relic; one Flagstaff family's efforts to save an historic airport. *Northern Arizona's Mountain Living Magazine*, (June): cover, 6, 10-17, 58-59.
 Red Butte Airport.

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Schultz, Arv

- 2012 Afterword. *In*: Koontz, Giacinta Bradley (with Gene Tissot), *The original Grand Canyon Airport : a 1930s scrapbook of life at Red Butte Aerodrome, Arizona*. Prescott, Arizona: Running Iron Publications, pp. 97-98.

Sidders, Mike

- 2005 Tuweep Airstrip; the Grand Canyon secret. *In*: Backcountry Update [SECTION]. *Pilot Getaways*, (March/April): 64.

Swint, Mark

- 2002 Life on the edge—Tuweep, AZ; the Grand Canyon’s most spectacular overlook. *SW Aviator*, (March/April).

Swint, Mark, AND Bar 10 Ranch

- 2001 Bar 10 Ranch; Grand Canyon adventure headquarters. *SW Aviator*, (February/March).

Tissot, Gene

- 2012 Preface. *In*: Koontz, Giacinta Bradley (with Gene Tissot), *The original Grand Canyon Airport : a 1930s scrapbook of life at Red Butte Aerodrome, Arizona*. Prescott, Arizona: Running Iron Publications, p. ix.

Tucker, John

- 2010 New aircraft rescue and firefighting facility opens. *TranSend* (Arizona Department of Transportation), (July): 3-4. [Front page title: “Steel, glass, wood, stone meet sustainability at Grand Canyon Airport”.]

U.S. Forest Service, Kaibab National Forest, Tusayan Ranger District

- DATE? 17.477 *Decision notice and Finding of No Significant Impact : Grand Canyon Airport buffer strip*. U.S. Forest Service, Kaibab National Forest, Tusayan Ranger District, 5 pp.

Winchester, James H.

- 1967 Aerial visits to the Grand Canyon up sharply. *The New York Times*, (December 16): 363.
Features the new Grand Canyon National Park Airport.



11

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY CONCERNS

IN AN AREA as horizontally expansive, topographically irregular, and remote as the Grand Canyon, the absence of aviation is unthinkable today. Only for a century have planes been involved in the human encounters of the canyon. Even just a few years after the first flights over and into the canyon by military aviators who reconnoitered air currents and aircraft handling in that vast space (even though some reported that it felt confining), airplanes were already in use deep in the canyon to hunt for three different groups who were thought to (or who actually were) lost along the Colorado River. These were the U.S. Geological Survey hydrological expedition led by Claude Birdseye in 1923 (just four years after the first aerial ventures into the canyon), the Pathé-Bray Colorado River Expedition that was making a commercial film in 1927 (“Bride of the Colorado,” which never reached theaters though not because of any difficulties in the canyon), and the ill-fated honeymooning couple, Glen and Bessie Hyde, in 1928, whose homemade river sweep scow only was found.

After World War II, with the advent of more widely available helicopter services, these aircraft came into much more wide use at the Grand Canyon (see “[Rotorwing Aviation](#)” herein for examples). Most at first were military flights, flying medevac missions from Supai to hospitals as far away as Phoenix. But the ‘copters (as they were often referred to) also became useful for the transportation of goods into the canyon and for searches like those that had been done from fixed-wing aircraft. There were as well some early entrepreneurs who used helicopters for air tours as early as the 1950s—which had its economic ups and downs at first but which today is thriving (see “[Tourism](#)” herein) despite the legislative anguish of decades of concern about overuse and assaults on natural quiet (see [Part 3](#)).

Accidents did happen, which by their nature always garner public attention—but not so much as which accompanied the disastrous midair collision of two commercial airliners over the canyon in 1956, which accounts are devoted to their own part herein (see [Part 2](#)). It propelled administrative

agencies and public and congressional attention toward the creation of modern day air traffic control. Over the years, even routine reports of fatal crashes held international attention in some magazines; and accidents elsewhere even brought to mind Grand Canyon accidents as some sort of measure. There even were questions whether helicopter rescues were appropriate in a wilderness setting; an odd position except from those in an emergency situation. Even challenging nighttime medevacs from the Colorado River are now part of the record.

Flying-safety concerns were likewise in the attention of military aviation even in advance of the 1956 midair collision, with one rather sensationally embroidered forecast that appeared in the widely read *Popular Mechanics Magazine* promising a TV screen for an aircraft windshield “so perfected that ‘a relatively untrained pilot will be able to fly a high-speed jet down the winding Grand Canyon in zero-zero weather and in perfect safety.’” (“Windshield TV Screen to Aid Blind Flying,” *Popular Mechanics*, Vol. 103, no. 3 (March 1955), p. 101.) It brings to the mind the promise of perfect safety and comfort traveling aboard the Lowe Planet Airship of 1910.

The citations here that pertain to historical events with great representation in publications are restricted to those that relate to aviation in the context of those events. They also only record those publications that have come to the compiler’s attention during the past 50 years of research.

Anonymous

- 1923 Asks plane to seek canyon explorers. Acting Governor of Arizona appeals to Geological Survey to help locate missing party. Drifting boat is seen. Rescuers to hunt for ten men charting flooded river in Grand Canyon. *The New York Times*, (September 23): 1, 5.

Regarding the U.S. Geological Survey expedition under Claude Birdseye to survey the hydrology and prospective dam sites of the Colorado River in Grand Canyon. Thought to be overdue and in danger.

- 1927 Army fliers seek men lost in canyon. Ordered to search for film party of 13, missing in Colorado River gorge. Out 16 days, food for 10. Camp Pearson headquarters of party filming the Grand Canyon apprehensive of fate. *The New York Times*, (November 26): 3.

Regarding the Pathé-Bray commercial filming expedition on the Colorado River.

- 1927 Start air canyon hunt. Army fliers, in search for missing film party, make Las Vegas base. *The New York Times*, (November 28): 12.

- 1927 Fliers at film camp. Army plane will start today in search for Larue [sic] party. *The New York Times*, (November 29): 8.

- 1928 Missing party located by Army airplane. *U.S. Air Corps News Letter* (Office of the Chief of the Air Corps, U.S. War Department, Washington, D.C.), 12(1) (January 7): 12.

Search for Pathé-Bray Colorado River Expedition. Notes use of “Scenic Airway Field [Red Butte airfield], 18 miles south of El Tovar Hotel, Grand Canyon, as an additional landing field”.

See also pilot’s official report (Burgess, 1928).

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY RECORDS

- 1928 Army fliers to hunt pair in Grand Canyon. Search ordered, with Mr. and Mrs. Hyde overdue two weeks in their venture. *The New York Times*, (December 18): 13.
- Regarding the Colorado River trip in a homemade flat-bottomed river scow by missing newlyweds Glen and Bessie Hyde. Their scow was later found in western Grand Canyon but they never were located.
- 1928 Search canyon rim for missing Hydes. Rescue parties' efforts are spurred by the finding of wrecked scow. Fliers again take off. Drop notes directing boatmen to go ashore and hunt for tracks in the snow. *The New York Times*, (December 21): 15.
- 1955 Windshield TV screen to aid blind flying. *Popular Mechanics Magazine*, 103(3) (March): 101.
- "Heads-up" type cockpit display. "Eventually the Office of Naval Research and Development expects that the tube will be so perfected that 'a relatively untrained pilot will be able to fly a high-speed jet down the winding Grand Canyon in zero-zero weather and in perfect safety.'" (ENTIRE NOTE)
- 1967 Air crash kills 7 in Grand Canyon. *The New York Times*, (July 28): 40.
- Air tour aircraft.
- 1971 Crash kills James E. Allen Jr. and wife. *The New York Times*, (October 18): 1, 40.
- Commissioner of Education, State of New York (1955-1969); U.S. Commissioner of Education (1969-1970). Dr. and Mrs. Allen were aboard a Scenic Airlines tourist flight out of Las Vegas that crashed in poor weather onto the Shivwits Plateau, while attempting to return to Las Vegas. The aircraft was a Cessna 402 piloted by Wayne Leeth, who had 3,000 hours flying time.
- 1980 Grand Canyon NP. *In*: Park Briefs [SECTION]. *Courier* (U.S. National Park Service), 3(3) (February): 11.
- "A tourist plane crashed here in mid-November and burst into flames minutes after its 44 passengers climbed from the wreck. Eight persons were injured. Many of the passengers were part of a French-speaking tourist group, and the plane was returning to Las Vegas after visiting the canyon. FAA spokesmen said the cause of the Nevada Airlines crash was 'mechanical failure.'" (ENTIRE ITEM)
- 1983 Grand Canyon tourist plane crashes in storm, killing 10. *The New York Times*, (August 19): D14.
- Las Vegas Airlines tour plane carrying Italian nationals; pilot was Wallace S. Gustafson, Jr., 28, former Air Force fighter pilot. Crash was on the Hualapai Indian Reservation and not sighted for 24 hours.
- 1986 NTSB cites air tour rules in canyon crash. *Aviation Week and Space Technology*, 126 (March 30): 40. [National Transportation Safety Board.]
- 1986 Din and death in the Grand Canyon. *The Economist* (London), 299 (June 28): 29.
- Airplane-helicopter collision.
- 1986 Collision over the canyon. *Time*, (June 30):.
- 1986 Grand Canyon hearings open in fatal crash. *The New York Times*, (September 19): A20.
- 1986 [KTSP-TV Phoenix coverage.] *In*: Spot News: Around the Block and Around the World [SECTION]. *Broadcasting* (Washington, D.C.), (September 1): 40.
- Note of live coverage "in the wake of the collision of an airplane and helicopter in the Grand Canyon last June".

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY RECORDS

- 1986 NTSB fixes position of Grand Canyon midair. *Aviation Week and Space Technology*, 125 (September 15): 34. [National Transportation Safety Board.]
- 1988 Grand Canyon. *Ranger Activities Information Exchange* (U.S. National Park Service), 4(5) (May "1987" [sic]): 3.
"A single-engine Cessna 182 overwing aircraft struck the base of trees on the rim at Vista Encantada (8,400 ft. MSL) on May 17th, killing both persons aboard. Wreckage was scattered across the Cape Royal Road. The plane was enroute from Tucson to Page, and had been reported missing on the 17th. Identification found at the scene belonged to pilot Charles Arnold. The passenger was Wesley Frensdorff, an Episcopal minister from Tucson."
- 1988 Grand Canyon. *Ranger Activities Information Exchange* (U.S. National Park Service), 4(6) (June "1987" [sic]): 1.
"A one-engine fixed-wing aircraft experienced engine failure while flying at 10,500' en route from Denver to North Hollywood on June 5th. The pilot contacted Grand Canyon tower and was advised to attempt an emergency landing on the East Rim Drive. He landed successfully, but the plane's wing struck a tree, causing considerable damage to the aircraft. One lane of the road was temporarily closed, but was later reopened." (ENTIRE NOTE)
- 1988 Plane crash kills 4 in Arizona. *The New York Times*, (September 5): 7.
Cessna 172 crashed on takeoff from Grand Canyon National Park Airport.
- 1989 (September 28) Sightseeing plane crashes and 10 die. Twin-engine craft goes down near Grand Canyon—11 aboard are injured. *The New York Times*, (September 28): A16. [Another edition(?) of paper gives title as: "10 die as plane crashes on Grand Canyon tour", p. A16.]
Twin-engine Grand Canyon Airlines tour plane crashed on landing approach.
- 1989 [KPNX-TV Phoenix.] *Broadcasting*, (December 4).
Regarding KPNX-TV coverage of tour plane crash at Grand Canyon.
- 1991 7 die as a sightseeing plane crashes near Grand Canyon. *The New York Times*, (May 14): B6.
- 1992 10 die in crash of canyon sightseeing plane. *The New York Times*, (June 20): 11.
- 1992 Crash clue in victims' videotape. *The New York Times*, (December 24): A13.
Three videotapes from a June 19 Grand Canyon tour plane crash that killed 10 "showed the right propeller slowing down and the pilot reaching for a fuel control lever," which has "led inspectors to a sticky inlet valve in a fuel tank inside a wing [on other Cessnas]".
- 1993 Fatal canyon crashes prompt air tour safety concerns. *Aviation Week and Space Technology*, 139 (December 6): 58-59.
- 1995 8 are killed in plane crash near Grand Canyon. *The New York Times*, (February 14): A10.
- 1995 Theory in canyon crash. *The New York Times*, (February 18): 10. [Left engine apparently not under power at time of crash.]
- 1995 Plane crash, new rules fuel overflights debate. *National Parks*, 69 (May/June): 20.
- 1996 Canyon air crash kills 4. *The New York Times*, (October 6): 36.

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY RECORDS

- 1997 Stor redningsaksjon. [*transl.* 'Major rescue operation.'] *NHF nytt* (Norsk Helikopteransattes Forbund, Sola, Norge), 8(4): 5. [*In Norwegian.*]
Brief news item regarding two UH-60 National Guard helicopters and four private aircraft used to evacuate 400 people from Supai, Havasupai Indian Reservation, following floods.
- 1997 Investigators reach plane crash in canyon. *The New York Times*, (April 8): A13.
- 1997 Copters rescue hundreds from Arizona flooding. *The New York Times*, (August 11): A13.
Havasupai Indian Reservation.
- 2001 Spring evacuations keep NPS rescue copter busy. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 5(2) (Summer): 22.
"Gathered from NPS Morning Report".
- 2002 Paul Purifoy's daughter solos. *In: Prop Wash* [SECTION]. *PMLAA News* (Pine Mountain Lake Aviation Association, Groveland, California), 17(3) (March): [5].
Stacey Lea. Notes, "In the summer of 2000 Stacey worked with the Search & Rescue as a fire fighter/heli-rappeller on the south rim of the Grand Canyon." (ENTIRE NOTE)
- 2002 [Comment.] *In: Helicopter rescues . . . Are they appropriate in a wilderness?* *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24.
Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology. This item signed "Charlie". From gcpba@yahoo.com; ellipsis is part of feature title.
- 2004 Topics; August-October 2003. *Japan Railway and Transport Review*, 38: 68-69.
See p. 69, "20 September—Sightseeing helicopter crashed into western side of Grand Canyon in USA, killing all seven passengers and crew." (ENTIRE NOTE)
- 2005 N3895D. *In: Aviation* [SECTION]. *Lloyd's Casualty Week* (Lloyd's Marine Intelligence Unit, Colchester, Essex, United Kingdom), (May 13): 29.
Monarch Enterprises Bell 206L-1 struck tail and rotors during descent while long-lining sling loads to bottom of Grand Canyon; substantial damage.
- 2005 Aircraft crash, Grand Canyon, Arizona, United States. *In: Awards and Settlements* [SECTION]. *Lloyd's Casualty Week* (Lloyd's Marine Intelligence Unit, Colchester, Essex, United Kingdom), (December 30): 29.
Woman who survived Grand Canyon helicopter sightseeing air crash, August 10, 2001, in terms of settlement with Papillon Grand Canyon Helicopters, Las Vegas, Nevada.
- 2005 N270SH. *In: Wildfires, United States* [SECTION]. *Lloyd's Casualty Week* (Lloyd's Marine Intelligence Unit, Colchester, Essex, United Kingdom), (September 15): 27.
Jury awards \$3.2 million in damages to Ikuko Hatano, whose daughter, Makiko, died in a September 20, 2003, crash of a Sundance Helicopters AS 350BA (Ecureuil) helicopter, as the result of reckless flying by the pilot, Takashi Mezaki.
- 2006 In top shape; structural integrity of small airplanes. *R&D Review* (U.S. Federal Aviation Administration), 2006(3): 20.

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY RECORDS

- 2008 New ARFF truck to enhance safety at GCN. *Arizona Airways* (Arizona Department of Transportation, Aeronautics Division), 1(1) (December): 1, 3.
Aircraft Rescue and Fire Fighting truck at Grand Canyon National Park Airport.
- 2008 Networking and pro-active maintenance prevents an accident. *AirWard News* (Safe Attitude: U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Aviation Management), (January/December): 3.
Richard Gibson, Papillon Grand Canyon Helicopters mechanic, Safe Attitude AirWard recipient.
- 2009 Igor I. Sikorsky Award for Humanitarian Service; Grand Canyon National Park Helitack, Papillon Grand Canyon Helicopters, Grand Canyon, Arizona. *In*: "Salute to Excellence" 2009; HAI's 48th annual awards celebration. *Rotor* (Helicopter Association International), (Spring): 57.
- 2009 Grand Canyon NP helitack and search and rescue crew receives Igor I. Sikorsky Humanitarian Service Award. *Burning Issues* (National Interagency Fire Center, Boise, Idaho), (Spring): 4-5.
- 2009 Grand Canyon NP staff receive humanitarian service award. *In*: Kudos and Awards [SECTION]. *Arrowhead* (U.S. National Park Service, Employees and Alumni Association), 16(2) (Spring): 4.
Igor I. Sikorsky Humanitarian Service Award to Grand Canyon National Park helitack and search and rescue crew, in recognition of efforts in rescuing 16 boaters stranded on Colorado River, August 17, 2008.
- 2011 Papillon Helicopters and Grand Canyon Airlines using spidertracks aircraft tracking system.] *Police Aviation News* (Special Edition—Heli-Expo 2011): 24.
- 2019 Ala Stanford. *In*: News from SBAS Women in Surgery Committee [SECTION]. *The Society of Black Academic Surgeons, Newsletter* (SBAC Membership Committee), (5) (Spring): [2].
"Ala Stanford, MD, FAAP, FACS was responsible handling ATLS [Advanced Trauma Life Support] for the epic Will Smith: The Jump that occurred at the Grand Canyon. The event raised money for education for urban and underserved youth and commemorated his 50th birthday. Her medical team cleared all airborne participants in the production prior to their involvement in the event. Additionally, they provided medical oversight for local first responders at the Grand Canyon and provided acute care on site." (ENTIRE ITEM)]
This relates to the publicized stunt by actor Will Smith, who bungee jumped from a helicopter over the Little Colorado River Gorge on September 25, 2018, which was streamed live on the web via YouTube as part of Youtube Originals. The produced program, "Will Smith—The Jump", is accessible at <https://www.youtube.com/Watch?v=aHCz1ZMI290> (accessed May 1, 2019), 1:25:30.

Applebaum, Erin

- 2018 East River helicopter tragedy the latest in a string of charter aircraft accidents. *New York City Bar, Committee on Aeronautics Newsletter*, 2(3) (March): 8-10.
Includes references to aircraft accidents at Grand Canyon.

Baker, Charles A.

- 1960 Visual aspects in collision avoidance of Air Force aircraft. *In*: Morris, Ailene, and Horne, E. Porter (eds.), *Visual Search Techniques*; proceedings of a symposium sponsored by the Armed Forces-NRC Committee on Vision; held in the Smithsonian Auditorium, Washington, D.C., April 7 and 8, 1959. *U.S. National Academy of Sciences, National Research Council, Publication 712*, pp. 28-31.
See p. 31, note of the crash of "two ill-fated commercial airliners" in Grand Canyon [in 1956] as inspiration for "an effort to develop an airborne collision warning indicator".

Bennion, Lee

- 2000 [Comments.] *In*: Three helicopter rescues [FEATURE]. *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 13-17.
- 2002 I've got the Grand Canyon helicopter evacuation blues. *In*: Three helicopter rescues. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 27-31. [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Bennion, Lee Udall, AND Dant, Doris R.

- 1997 Lee Udall Bennion: A quiet interview. *Brigham Young University Studies*, 36(2)(1996-1997): 117-136.
- See pp. 124-126, Bennion's remarks on a Colorado River trip during which he was life-flighted out but hiked back in down Havasu Canyon to rejoin the trip.

Bledsoe, Bryan E.

- 2003 Air medical helicopter accidents in the United States: A five-year review. *Prehospital Emergency Care*, 7(1) (January/March): 94-98.

Boody, Peter

- 1980 Getting a grip on the Grand; treating tourists instead of patients is one way several Air Rescue pilots spend their days off. *Flying*, 107(3) (September): 100-101.
- This is a sidebar in Boody and Steele (1980).

Boody, Peter, AND Steele, Randy

- 1980 Arizona beat; a two-man highway patrol crew runs a regular race with death in the rural outback. *Flying*, 107(3) (September): 94-101.
- Arizona Department of Public Safety air rescue unit based in Flagstaff. Includes a night medevac from Supai, Arizona.

Burgess, W. K. [Burgess, Walter K.]

- 1928 The search for the Pathe-Bray Colorado River Expedition. *U.S. Air Corps News Letter* (Office of the Chief of the Air Corps, U.S. War Department, Washington, D.C.), 12(4) (March 15): 101-105.
- Pilot's official report of the search for Pathé-Bray Colorado River Expedition.

Calderone, Robert

- 2009 Aerospace education update; "Synthetic Vision". *The Fell Swoop* (Civil Air Patrol, Skyhawks Composite Squadron 47, Oceanside, California), 7(2) (March): 8-9.
- Honeywell Aerospace technology for military and commercial aircraft displays terrain renderings and data. Grand Canyon example illustrated.

Cathcart-Rake, William F., AND Myers, Thomas M.

- 2022 Emergency medical evacuations from Grand Canyon National Park. *The Ol' Pioneer* (Grand Canyon Historical Society), 33(3) (Summer): 10-14.

Cellamare, Daniele

- 2009 *L'acqua : una risorsa strategica una minaccia alla stabilità.* [*transl.* 'Water: a strategic resource and a threat to stability.'] [No place]: Rivista Militare, 304 pp. (Printed by Stilgrafica srl, Roma.) [*In Italian.*]

See photo of Grand Canyon (p. 96), with legend, "Nell'estate del 2008, una ventina di persone hanno perso la vita in seguito alla rottura di una piccola diga e al conseguente allagamento di un'area di diversi km² nel Gran Canyon, tra Arizona e Utah [*sic*]. Si trattava per lo più di turisti, ma anche di indiani havasupai che vivono nella zona. I soccorritori, con elicotteri e gommoni, hanno tratto in salvo più di 170 persone e quasi 500 sono state evacuate." (ENTIRE NOTE)] [*transl.* 'In the summer of 2008, about twenty people lost their lives when a small dam broke and flooded an area of several square kilometers in the Grand Canyon, between Arizona and Utah [*sic*]. Most of them were tourists, but some were Havasupai Indians who live in the area. Rescuers, using helicopters and rafts, rescued more than 170 people and nearly 500 were evacuated.']

Cisneros, Ashley

- 2010 Personal injury spotlight: Brian Panish and Kevin Boyle talk about their numerous wins in air disaster cases. *In: National Law Journal, Personal Injury Litigators—2010 : special advertising supplement to the Los Angeles Times*, p. 10. [Specific date of publication not indicated.]

Notes briefly, "Panish and Boyle have handled numerous helicopter crashes, including one involving a family that was killed while taking a helicopter tour over the Grand Canyon." (no further details) [Related: "Panish, Shea & Boyle LLP", cover, 4-5.]

Clark, Roger

- 1993 Helicopters collide in Tusayan; tour operator tries to shift blame. *Colorado Plateau Advocate*, (Fall): 7.

Collins, Richard L.

- 1986 *Air crashes : what went wrong, why, and what can be done about it.* New York: Macmillan, 224 pp.
- 1992 *Air crashes : what went wrong, why, and what can be done about it.* Charlottesville, Virginia: Thomasson-Grant, 244 pp.
- See pp. 34-35.

Conway, Erik

- 2004 Echoes in the Grand Canyon: Public catastrophes and technologies of control in American aviation. *History and Technology*, 20(2): 115-134.

Conway, F. Michael

- 2022 Get to the boats! Fatal debris flow at Grand Canyon's Tatum Beach 14 July 2021. *Arizona Geology*, 43(1) (Summer): 1-12.
- Cited for the high-risk nighttime medevac. See also Harris (2022).

Culligan, Tricia

- 2018 Drones to the rescue; from fighting fires to delivering medical supplies, drones are helping to save lives all over the world. *Scholastic News* (Edition 5/6), 86(16) (March 5): cover, 4-5.
- See p. 5, brief note of UAVs (unoccupied aerial vehicles) used to locate lost or stranded people in Grand Canyon National Park.

Cummings, Judith

- 1986 Air crash kills 25 at Grand Canyon. Plane and helicopter collide while on tourist flights. *The New York Times*, (June 19): A1, A18.
- 1986 Crash doesn't deter tourists from Grand Canyon flights. *The New York Times*, (June 20): A21.

Duncan, Tom

- 2000 [Comments.] *In*: Off the internet: From gcpba@egroups.com [FEATURE]. Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 10. [Ellipsis is part of title.]
- 2002 [Comment.] *In*: Helicopter rescues . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24. [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.] [From gcpba@yahoo.com; ellipsis is part of feature title.]

Farabee, Charles R. "Butch", Jr.

- 1990 The first helicopters in search and rescue. *Ranger* (Association of National Park Rangers, Journal), 6(4) (Fall): 13-14.
- See p. 13, brief recount of a 1950 event when an Arizona Helicopter Service aircraft crashed during a search for a Colorado River uprun expedition. (This item does not give details about the expedition.)

Flight Safety Foundation Editorial Staff

- 2004 Maneuver cited in AS 350's uncontrolled descent; the U.S. National Transportation Safety Board said that the pilot on the Grand Canyon air tour apparently flew the helicopter over a cliff and then initiated a descent that he was unable to stop. *Helicopter Safety* (Flight Safety Foundation), 30(4) (July/August): 1-6 [entire issue].
- Eurocopter AS 350B2 crash near Meadview, Arizona, August 10, 2001.

Forté, Timothy P.

- 1993 Statement of Timothy P. Forté, Director, Office of Aviation Safety, National Transportation Safety Board. *In*: *Oversight of Grand Canyon overflights : hearing before the Subcommittee on Aviation of the Committee on Commerce, Science, and Transportation, United States Senate, One Hundred Second Congress, Second Session : July 7, 1992*. Washington, D.C.: U.S. Government Printing Office, pp. 5-18. (S. Hrg. 102-1014.)
- Substantially concerning accidents and air safety in the Grand Canyon airspace.

Fuqua, Brad

- 2004 Park airlifts 17 people off stuck raft. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(4) (Winter/Spring): 28.
- Unkar Rapid, September 11, 2003. Apparently reprinted from *Williams-Grand Canyon News*.

Garrison, Peter

- 1981 Crisis at the canyon; if the average twin pilot has a good chance of crashing after an engine failure, is it his fault or the airplane's? *In: Aftermath* [SECTION]. *Flying*, 108(10) (October): 104-106.
Cessna 404 crash after takeoff from Grand Canyon National Park Airport.
- 1984 Blind alley. *Flying*, 111 (November): 22.
Piper Navajo crash in Grand Canyon.
- 1993 Too close to the scenery. *Flying*, 120(8) (August): 48, 50.
See also comment by Frank L. Jensen, Jr., 120(10) (October): 14.
- 1994 Bounced landing. *In: Aftermath* [SECTION]. *Flying*, 121(1) (January): 42-43.
Regarding a de Havilland DHC-6-300 Twin Otter crash at Grand Canyon National Park Airport.
- 2001 Numbers game. *In: Aftermath* [SECTION]. *Flying*, 128(2) (February): 86-88.
Cessna 172RG crash north of Grand Canyon National Park Airport.

Gibbs, Fred

- 2015 GAARMS report: August 2015. *Arizona Pilots Association Newsletter*, (August): 12-15.
General Aviation Accident Reduction and Mitigation Symposium. See "Flying Over the Grand Canyon", p. 14.

Harris, Randy

- 2022 The day it rained rocks on the Grand Canyon's Tatahatso beach. *Paddling*, (Fall):.
Regarding the Tatahatso flash flood of July 14, 2021. Cited for the high-risk nighttime medevac.
See also Conway (2022).

Hartsough, Don M.

- 1988 Variables affecting duty-related stress after an air crash disaster. *University of Colorado, Natural Hazards Research and Applications Information Center, Quick Response Research Report 26*, 18 pp.
Principally in the aftermath of a mid-air collision of airplane and helicopter over Grand Canyon, June 18, 1986.

Hattaway, Patrick

- 1998 Cost for a medical evacuation by air. *The Waiting List* (Grand Canyon Private Boaters Association), 2(2) (May): 19.

Hawkings, Keith

- 2000 [Comments.] *In: Three helicopter rescues* [FEATURE]. *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 12.
- 2002 [Comment.] *In: Three helicopter rescues*. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 26. [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Hoover, Herbert, Jr.

- 1930 Radio—a real aid to air navigation. An outline of what radio can do for the rapid development of aviation. Commercial aerial transportation is becoming vitally dependent upon communication with airports for weather and other important reports. *Radio News*, 11(7) (January): 596-598, 654.
See p. 698, Grand Canyon noted, *in passing*, regarding communication of a flight path alteration.

Hopkins, Jay

- 2005 Déjà vu. *In*: Training and Technique [SECTION]. *Flying*, 132(3) (March): 62-63.
Simulators in flying. See p. 63, “flying” a Robinson R-22 helicopter along the South Kaibab and Clear Creek Trails, Grand Canyon.

Jensen, Frank L., Jr.

- 1993 Don’t blame helicopters. *In*: Flying Mail [SECTION]. *Flying*, 120(10) (October): 14.
Comment on “Too Close To the Scenery” by Peter Garrison, 120(8) (August): 48, 50.

Johnston, Lew

- 1954 To file or not to file. *Flying*, 55(6) (December): 22-23, 48.
Regarding the filing of flight plans. See box, p. 48, “Round Robin Flight Plan”; a Prescott-to-Prescott, Arizona, flying loop embracing Grand Canyon Inn, Cape Solitude, and Supai.

Lacagnina, Mark

- 2009 On Record (COLUMN). *Aerosafety World* (Flight Safety Foundation), (March): 57-63.
See under “Helicopters” (p. 63), “Windshield Shattered by Eagle.” Substantial damage to Eurocopter EC 130B4 near Meadview, Arizona, September 27, 2007.

Laubach, Melinda; Montgomery, Michael; AND Cope, Dale

- 2007 *Summary and comparison report on teardown evaluation of Cessna 402A and Cessna 402C airplanes : final report*. Washington, D.C.: U.S. Federal Aviation Administration, Office of Aviation Research and Development, Air Traffic Organization Operations Planning, 64 pp. (DOT/FAA/AR-07/35.)
Destructive evaluation of aged airplanes, “[t]o determine if potential continuing airworthiness problems exist for the small airplane fleet as a function of the aging process” (p. xi). “A 1969 Cessna 402A, tail number N812BW, with 19,698.9 total airframe hours [. . .] purchased from Sunshine Airlines, was primarily used later in life for tours of the Grand Canyon.” (p. xi)

Leinbach, Michael D., AND Ward, Jonathan H.

- 2018 *Bringing Columbia home : the untold story of a lost space shuttle and her crew*. New York: Arcade Publishing, 356 pp., color plates.
Includes notes regarding Jules “Buzz” Mier, a pilot for Papillon Grand Canyon Helicopters, whose Bell 407 crashed over Angelina National Forest, Texas, during searches for debris from the shuttle *Columbia*; all aboard died. See p. 195, and p. 198, note of memorial service “a few days later in a chapel on the rim of the Grand Canyon.” Papillon Grand Canyon Helicopters not noted in text, but see photo on fourth page of second color plates section following p. 244, “Charles Krenek’s search crew [with pilot Mier] poses for a photo while refueling on March 27, 2003, the day of the fatal accident.” The company name is visible on the helicopter.

Lord, Alexandra M.

- 2011 (ED.) *American aviation heritage : identifying and evaluating nationally significant properties in U.S. aviation history : a National Historic Landmarks theme study*. [Washington, D.C.]: U.S. Department of the Interior, National Historic Landmarks Program, revised, 314 pp. (Produced by the National Historic Landmarks Program, Cultural Resources, National Park Service, U.S. Department of the Interior, Washington, D.C.; United States Air Force, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio; and National Conference of State Historic Preservation Officers, Washington, D.C.)
Under "1920s Passenger Aircraft" (pp. 78-79), contemporary remarks on flight safety of the Ford Tri-Motor 4-AT in Grand Canyon.

Martin, Richard ("Ricardo")

- 1998 Helicopter evacuations. *The Waiting List* (Grand Canyon Private Boaters Association), 2(2) (May): 19. [Item signed "Ricardo".]
- 2000 [Comments.] *In*: Off the internet: From gcpba@egroups.com [FEATURE]. Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 10. [Item signed "Ricardo". Ellipsis is part of title.]
- 2002 [Comment.] *In*: Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24. [From gcpba@yahoo.com; ellipsis is part of feature title.] [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Martin, Robyn Slayton

- 2000 [Comments.] *In*: Off the internet: From gcpba@egroups.com [FEATURE]. Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 10. [Ellipsis is part of title.]
- 2002 [Comment.] *In*: Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24. [From gcpba@yahoo.com; ellipsis is part of feature title.] [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Mattison, Patricia

- 2001 A long time ago. *FAA Aviation News* (Federal Aviation Administration), 40(1) (January/February): 14-16.
A winter general aviation flight in the vicinity of Grand Canyon turns dangerous.

McClellan, J. Mac

- 1988 Too long in the icebox. *In*: Aftermath [SECTION]. *Flying*, 115(1) (January): 22-23.
Crash of a Mooney 201 on Kaibab Plateau.

McCullough, Amy

- 2013 Angel Thunder; combat search and rescue teams have seen the value of training as they fight. *Air Force Magazine*, (June): 26-34.
Overview of project Angel Thunder. See illustration, p. 33, "USAF pararescuemen practice a high-angle rescue in a mass casualty exercise at the Grand Canyon during Angel Thunder." (See also Mockenhaupt.)

McFadden, Robert D.

- 1979 (November 17) All 44 survive plane crash at rim of Grand Canyon. *The New York Times*, (November 17): 10.

Nevada Airlines propeller-driven Martin 404 carrying 41 French tourists (employees and distributors for Coca-Cola of France) and three crew members crashed after losing power in one of two engines on takeoff from Grand Canyon National Park Airport. Crash site was a clearing near Red Feather Lodge (Tusayan). The aircraft was returning to Las Vegas, and the crash was controlled, locating the only clearing within 15 miles.

McInnis, Doug

- 2009 Adventures in environmental science; four professors share a major, a zest for field research—and a close call or two. *St. Norbert College Magazine* (St. Norbert College, De Pere, Wisconsin), 41(2) (Summer): 15-17.

See p. 17, "Flash Flood", regarding the experience of Department of Biology's Anindo Choudhury with a flash flood in the Little Colorado River and helicopter evacuation.

Meares, Bill

- 1971 Grand Canyon checkride. *Western Gateways*, 11 (Summer): 6-7.

Author flies with pilot Fred Maurer in a Hughes 500 helicopter to provide Maurer's "annual standardization checkride on the 'Havasupai' scenic flight route" over Grand Canyon.

Megna, Dan

- 2018 Pulling together; how crews responded to a fatal helicopter crash at the Grand Canyon earlier this year. *Vertical 911* (Kitchener, Ontario, and Fall River, Wisconsin), 11(4) (Fall): 54-57.

Papillon Grand Canyon Helicopters Airbus EC130 B4 crash within Grand Canyon on Hualapai Indian Reservation, February 10, 2018; medevacs conducted under night conditions.

Miller, Charlie

- 2007 National parks provide challenging environments for wing EMTs. *Buckeye Flyer* (Wright-Patterson Air Force Base, Ohio), 46(10) (October): 4-5. [Emergency Medical Technicians.]

Mockenhaupt, Brian

- 2013 Dress rehearsal; an emergency at the Grand Canyon provides plenty of lessons for Park Service staff and other federal agencies. *National Parks*, 87(3) (Summer): 24, 26, 28.

Mass-casualty drill at Yaki Point as part of statewide Angel Thunder search-and-rescue exercise. (See also McCullough.)

Murphy, Seán Óg; Sreenan, Cormac; AND Brown, Kenneth N.

- 2019 Autonomous unmanned aerial vehicle for search and rescue using software defined radio. *In: 2019 IEEE 89th Vehicular Technology Conference (VTC2019-Spring), Kuala Lumpur, Malaysia, 28 April-1 May*, 6 pp.

See Figure 2 (p. 3), "Example propagation maps for Cork, Grand Canyon, Swiss Alps, South Australia."

Musselman, Warren

- 2000 [Comments.] *In*: Off the internet: From gcpba@egroups.com [FEATURE]. Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 10. [Ellipsis is part of title.]
- 2002 [Comment.] *In*: Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24. [From gcpba@yahoo.com; ellipsis is part of feature title.] [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Myers, Thomas M. [Myers, Tom]

- 2000 Golden rules for helicopter evacuations. *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 18-19.
- 2000 Golden rules for helicopter evacuations. *The Waiting List* (Grand Canyon Private Boaters Association), Special Issue: 12-13. [NOTE: "A Special Edition of the Grand Canyon Private Boaters Association Quarterly Courtesy of Power Bar"; issue not mailed but distributed at Lees Ferry.]
- 2002 Golden rules for helicopter evacuations. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 32. [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Myers, Thomas M.; Becker, Christopher C.; AND Stevens, Lawrence E.

- 1999 *Fateful journey : injury and death on Colorado River trips in Grand Canyon*. Flagstaff, Arizona: Red Lake Books, 178 pp.
- 2000 [Comments.] *In*: Three helicopter rescues [FEATURE]. *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 12-13.
Excerpt from Myers *et al.* (1999), *Fateful journey*.
- 2002 [Comment.] *In*: Three helicopter rescues. *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 26-27. [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]
Excerpt from Myers *et al.* (1999), *Fateful journey*.

Nelson, Carlyle LaMar

- 1974 Flying the tunnel; "underground" in the Grand Canyon. *Journal of Arizona History*, 15(4) (Winter): 319-324.
The author piloted Western Air Express Flight 2 (Los Angeles to Albuquerque), January 12, 1930, in a Fokker F-10 aircraft, encountering blizzard conditions in northern Arizona. A white-knuckle series of events with notes of historical interest, with the flight eventually forced into and west through the Grand Canyon to return to Kingman.

Newell, Suzann

- 2020 Blast from the past; September/October, 1994. Meadview hits national media. 1984 helicopter crash and rescue. *Meadview Monitor*, (September/October): 7.
Repeating a 1994 recounting of the events of the 1984 crash above the Grand Wash Cliffs.

Newhouse, Eric

- 2008 Crew remembers MacDonald as "inspiring firefighter". *Smoke Signals* (U.S. Bureau of Indian Affairs, National Interagency Fire Center, Boise, Idaho), 10 (July): 1-3.

Reprinted from the *Great Falls Tribune*, commemorating the life of Michael James MacDonald, a Blackfeet tribal member and Chief Mountain Hot Shot firefighter, who died in a medevac helicopter accident after "fighting a huge fire on the edge of the Grand Canyon." (p. 2). "Maurice St. Goddard said MacDonald drew pictures of horses on his leather gloves and made up a story about how the Blackfeet Tribe had stolen the horses from the Spanish and driven them across the Grand Canyon." (p. 2). (ENTIRE NOTES)

O'Neil, Devon

- 2018 CF-historien: flight risk. Emergency helicopter crews race crash victims to the E.R. and pluck adventurers from remote mountaintops. But the most dangerous part of the job may be the choppers themselves. *Cockpit Forum* (Norsk Flygerforbunds medlemsmagasin, Norway), (December): 21-. [This item in English; the remainder of the serial is in Norwegian.]

Regarding medevac helicopter pilot Patrick Mahany and flight nurses Dave Repsher and Matt Bowe, involved in a low-altitude crash soon after taking off from in San Francisco. Notes Repsher's rowing the Colorado River in Grand Canyon, with a 2007 photo. See also extended remarks concerning the 2018 crash of a Papillon Airways sightseeing helicopter in Grand Canyon, which (like the other helicopters mentioned) did not have crash-resistant fuel systems, which allowed them to explode and burn on impact.

Pettit, James; Lusher, Jay; Reinarz, Joe; Ebersole, Michael J.; Mertz, David; AND Oltrogge, Dan

- 2009 *Helitack module interaction plan*. [No place]: U.S. National Park Service, Grand Canyon National Park; and U.S. Forest Service, Kaibab National Forest, 4 pp.

Phelps, Mark

- 1986 On the record. *Flying*, 113(9) (September): 102-103.

See p. 103, note of collision of de Havilland Twin Otter and Bell 206 JetRanger in Grand Canyon, killing 25.

St. John, Dalles

- 2000 *Wreckage examination of a Model 206L-3 helicopter that crashed on April 18, 2000 at the Grand Canyon National Park Airport, Tusayan, Arizona*. [No place]: Bell Helicopter, and Textron, SEPARATELY PAGINATED SECTIONS [63 pp. total]. (Report No. 20000418-206L3-5102-AZ-ST.) ["Technical Data" sheet indicates 107 pp.]

Scafuri, Jenna

- 2018 Flying in the Grand Canyon: A dream job with unique challenges. *Rotor* (Helicopter Association International), (Spring): cover, 1, 16-19.

Grand Canyon National Park helitack team.

Simon, Nic

- 2008 Comment voler VFR au-dessus du Grand Canyon. [*transl.* 'How to fly VFR over the Grand Canyon.'] *Union des Pilotes Luxembourgeois, Bulletin d'Information*, (February): 12-14. [*In French.*]

VFR: Visual Flight Rules.

Smith, Andy

- 2002 Air tour of the Grand Canyon. *The Congressional Record* (Congressional Flying Club, Inc., and Civil Air Patrol, Montgomery Senior Squadron, Gaithersburg, Maryland), 20(1) (January): 3-4.
Focuses on safety and logistics during a winter flight to Grand Canyon in a 172 (*i.e.*, Cessna 172).

Smith, Drifter

- 2000 [Comments.] *In*: Off the internet: From gcpba@egroups.com [FEATURE]. Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association), 4(1) (Spring): 10-11. [Ellipsis is part of title.]
- 2002 [Comment.] *In*: Helicopter rescues . . . Are they appropriate in a wilderness? *The Waiting List* (Grand Canyon Private Boaters Association Quarterly), 6(1) (Summer/Fall): 24-25. [From gcpba@yahoo.com; ellipsis is part of feature title.] [Special Issue: Reflections—Five Years of Fun—A Waiting List Anthology.]

Smith, Mike R.

- 2008 National Guard rescues canyon flooding victims. *GX: The Guard Experience* (Nashville, Tennessee), 5(6): 20.
Flooding in Havasu Canyon.

Thorstenberg, Russell, Jr.

- 2001 Beam me up: Calling for a helicopter evacuation from the Grand Canyon. *Boatman's Quarterly Review*, 14(2) (Summer): 36-38.

Timm, Jim

- 2016 AZ aviation accident summary. *APA Newsletter* (Arizona Pilots Association), (February): 9-11.
See p. 10, Super Bushmaster (Canadian registry) loss of control landing at Marble Canyon, October 4, 2015.

Uehling, Mark D.

- 1986 A Grand Canyon controversy. *Newsweek*, 107(26) (June 30): 28.
Air crash raises questions about air tours over Grand Canyon.

U.S. Federal Aviation Administration

- NO DATE *Facility orientation guide : Los Angeles Air route Traffic Control Center (ARTCC)*. [No place]: U.S. Federal Aviation Administration, 48 pp.
See maps: p. 9, "Los Angeles Center High Altitude Sectors" and "Los Angeles Center Low Altitude Sectors"; map, p. 17, "Los Angeles ARTCC and the Operational Areas"; and "Area F" (p. 23), which notes that "they handle traffic into the Grand Canyon, Las Vegas departures and arrivals to airports in the Southwest US" and "They handle Approach Control service for Grand Canyon, Kingman and St George airports."

U.S. National Oceanic and Atmospheric Administration, Office of the Federal Coordinator for Meteorological Services and Supporting Research

- 2007 *National Volcanic Ash Operations Plan for Aviation and support of the ICAO International Airways Volcano Watch*. Washington, D.C.: U.S. National Oceanic and Atmospheric Administration, Office of

AVIATION ACCIDENTS, MEDEVACS, AERIAL SEARCHES, AND HUMAN-SAFETY RECORDS

the Federal Coordinator for Meteorological Services and Supporting Research, SEPARATELY PAGINATED SECTIONS [68 pp. total]. (GCM-P35-2007.)

Appendix D, "List of U.S. Volcanoes", includes (p. D-6) Uinkaret Field, Arizona. (ICAO: International Civil Aviation Organization.)

U.S. National Transportation Safety Board

- 1979 Aircraft accident report; Nevada Airlines, Inc., Martin 404, N40438, Tusayan, Arizona, November [sic] 16, 1979. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB-AAR-80-7*, 27 pp., map.
- 1981 Aircraft accident report; Scenic Airlines, Inc., Cessna 404, N2683S, near Grand Canyon National Park Airport, Tusayan, Arizona, July 21, 1980. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB-AAR-81-2*, 32 pp.
- 1984 Aircraft accident report; Las Vegas Airlines flight 88 Piper PA-31-350, Grand Canyon, Arizona, August 17, 1983. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB/AAR-84/05*, 22 pp. (PB84-910405.)
- 1987 Aircraft accident report; Grand Canyon Airlines, Inc., and Helitech, Inc., midair collision over Grand Canyon National Park, June 18, 1986. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB/AAR-87/03*, 66 pp. (PB87-910403.)
- 1989 Aircraft accident report; Grand Canyon Airlines Flight Canyon 5 De Havilland Twin Otter, DHC-6-300, N75GC, Grand Canyon National Park Airport, Tusayan, Arizona, September 27, 1989. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB/AAR-91/01*, 32 pp. (PB91-910401. 5256A.)
- 1991 Grand Canyon Airlines flight Canyon 5, De Havilland Twin Otter, DHC-6-300, N75GC, Grand Canyon National Park Airport, Tusayan, Arizona, September 27, 1989. *U.S. National Transportation Safety Board, Aircraft Accident Report NTSB/AAR-91/01*, 32 pp.
- 1995 *Special investigation report : Safety of the air tour industry in the United States*. Washington, D.C.: U.S. National Transportation Safety Board, 60 pp. (PB95-917004. NTSB/SIR-95/01.)
Includes Grand Canyon.
- 2004 LAX01MA272; Eurocopter AS350-B2, N169PA; Meadview, Arizona; August 10, 2001. *U.S. National Transportation Safety Board, Aircraft Accident Brief NTSB/AAB-04/02*, 47 pp.
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- See p. 108, "1980; Another super King Air", which also notes "The arrival of the Cessna 404 Titan [. . .] frequently used by Scenic Airlines for tours to and over the Grand Canyon. One reason was that if one engine quit, the other one would keep pulling a load of 10 people, even on a hot day." (ENTIRE NOTE)



PART 2

1956 MID-AIR COLLISION

THE ACCIDENT

At 11:30 A.M. (MOUNTAIN STANDARD TIME), Saturday, June 30, 1956, two four-engine, propeller-driven commercial airliners collided above the Grand Canyon at an altitude of 21,000 ft. Both had departed 1½ hours earlier from Los Angeles. Trans World Airlines Flight 2, flying the Lockheed L-1049 Constellation *Star of the Seine* (N6902C), was en route to Kansas City with 70 persons on board, and United Air Lines Flight 718, flying the Douglas DC-7 *City of Vancouver* (N6324C), was en route to Chicago carrying 58 persons. The Constellation, having lost its distinctive three-finned tail section, fell into an unnamed side canyon on the south side of Chuar Butte. The DC-7, disabled by the loss of the outer third of its left wing, attempted a difficultly controlled course but struck the southern side of the butte just to the west of the confluence of the Little Colorado River. Both airliners were off of their planned courses by several miles; but it was not unusual in those days for pilots to deviate from courses to provide their passengers some amazing views, like the Grand Canyon, and to avoid weather. Both planes, flying through open air, apparently had skirted a large cloud and came around on northeastward courses from opposite sides, crossing into each other. At the speeds and angles at which they were traveling, a twentieth of a second either way would have resulted in a near miss.

It was an accident that stunned the world. Nothing like it had ever happened before.

The logistics of recovery were monumental challenges; helicopters were brought to the scene, and specialized climbers even were brought in from Switzerland. It was only the beginning of a long, testing process to figure out what had happened, and why. Congress and federal agencies demanded to know what could have been done to prevent the accident, and even more importantly, what could be done to prevent such a thing from happening again. Much has been written, but it instigated the start of modern air traffic control.²⁰

In later years, much of the wreckage was removed from the canyon, although random pieces still can be found, and some wreckage of the DC-7 remains inaccessible in vertical rock chimneys on the side of Chuar Butte.

²⁰ For a guide more complete than the present bibliography of published articles, books, reports, and film, which adds historical and online resources concerning the 1956 midair collision, see Earle E. Spamer (compiler), *1956: A Resource Guide to the Grand Canyon Midair Collision of Trans World Airlines Flight 2 and United Air Lines Flight 718, June 30, 1956* (2nd edition) (Raven's Perch Media, 2025, 116 pp., PDF https://ravensperch.org/wp-content/uploads/2025/01/1956_2nd-ed.pdf and a flip book version at <https://online.fliphtml5.com/ryvqb/rzsn/>). See also the Raven's Perch website for an interim supplement.

TWA perhaps more than any other international airline widely advertised the Grand Canyon in its transcontinental service, as witnessed by these postcards.



Constellation in Flight. Kodachrome by Trans World Airline

TWA

Litho in U.S.A. 100M 8-48 [August 1948]

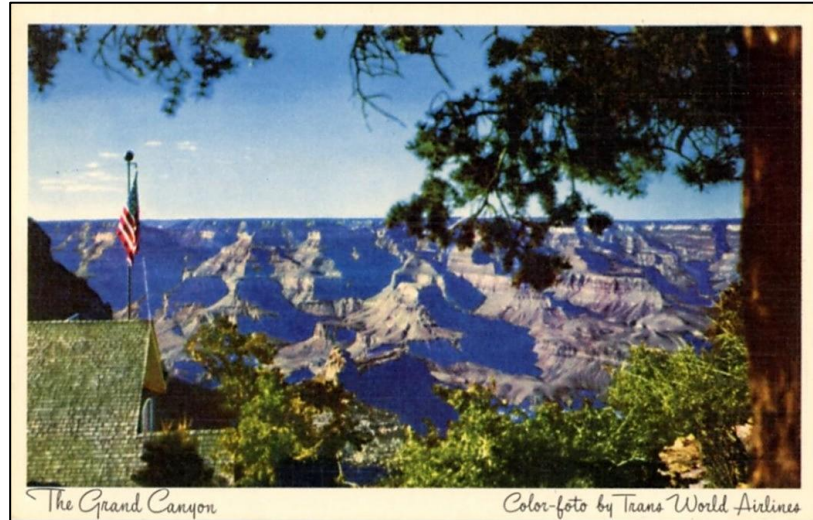
"TWA's famous dependable Constellation designed to carry 51 passengers and a crew of seven, cruising at 300 miles per hour is operating on regular schedules to major cities throughout the world."

"La fameux et sur Constellation de TWA crée pour transporter 51 passagers et un équipage de sept hommes à la vitesse de 300 milles par heure, est opéré d'après des horaires réguliers sur les villes principales du monde entier."

Although this card as produced does not pertain to the Grand Canyon, see the writer's message below, which placed him "just east of Needles," California, thus positioning him just south of Grand Canyon and which route probably took him over or near the canyon. It was customary also to detour over the canyon at times, although it seems his flight may have been mostly clouded out. The model of aircraft is one of those involved in the tragic mid-air collision of eastbound airliners, a TWA Constellation and a United Air Lines DC-7, over Grand Canyon seven years later, on June 30, 1956.

The writer's message on this card postmarked in Chicago on January 9, 1949, addressed to a woman in Los Angeles, is as follows:

"Now we have a few holes in the sea of clouds over the Great Divided [*sic*], sun is bright but the earth below all covered with snow, looks pretty cold, real winter like. Flight is smooth as feather bed. Think you would have enjoyed this. Just east of Needles, speed 330 MP.H., Temp. 0°F, Tail Wind 45 M. Howard May reach Chicago 4.30 ahead of schedule. No more holes in clouds."



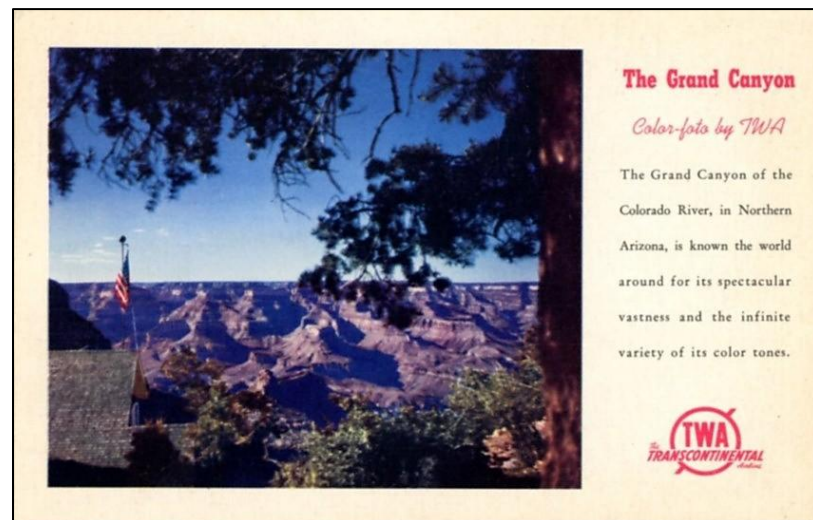
The Grand Canyon Color-foto by Trans World Airlines

TWA

Litho in U.S.A. 150M 6-50 [June 1950]

"Greatest natural wonder of America's Southwest is Grand Canyon, now served directly by the fast, frequent U. S. flights of TWA—Trans World Airline. This 8th wonder of the world is only hours away from your very doorstep by TWA."

"Le Grand Canyon, la plus grande merveille naturelle du Sud-Ouest Américain, est maintenant relié directement par les vols, rapides, fréquents de TWA—Trans World Airline. Cette 8ème. Merveille du monde n'est qu'à quelques heures de votre porte par TWA."



The Grand Canyon Color-foto by TWA The Grand Canyon of the Colorado River, in Northern Arizona, is known the world around for its spectacular vastness and the infinite variety of its color tones. [logo] TWA The Transcontinental Airline

TWA

Litho in U.S.A. TWA2-388

"TWA planes on certain schedules fly for more than one hundred miles over the most inspiring and colorful portion of the Grand Canyon of the Colorado River, an eternal symbol of the greatness of America!"

The building roof seen at left in the photo used for both cards is the Kolb Studio, which at that time was still the residence and business of Emery Kolb.

All cards illustrated from the compiler's collection.

ARTICLES, BOOKS, REPORTS, AND FILMS

Comprehensive coverage in *The New York Times* is cited in its [own section](#) that follows this one.

Anonymous

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- 1956 Eine schreckliche Flugzeugkatastrophe. [transl. 'A terrible plane disaster'.] In: Politisches und anderes ['Political and Other' SECTION]. *Schweizer Frauenblatt* (Bern), 35(27) (July 6): [2]. [In German.]
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- 1956 Kansas City rector flies to Flagstaff to take charge of committal for victims of Grand Canyon plane crash. *The Living Church* (Milwaukee, Wisconsin), 133(6) (August 5): 16. [Rev. Laurence Spencer, rector of St. Michael and All Angels Episcopal Church, Kansas City. Service with family members of victims in the TWA airliner crash in Grand Canyon, interred at Flagstaff, Arizona. Article also includes commentary on services held by Rev. Dallis L. Harris, rector of the Church of the Epiphany (Flagstaff, Arizona), at St. Andrew's chapel in Supai, Arizona, where he was when he heard of the United Airline-TWA crash at Grand Canyon. The article includes a photo credited to Dal Harris showing Rev. Spencer presiding over the mass grave in Flagstaff.]

1956 MID-AIR COLLISION

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[Reprinting of U.S. Civil Aeronautics Board (1957).]

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Airlines-Helitech crash of 1986 (pp. 3.2-23, 3.5.1-3, 6.4-8), and the 1989 Grand Canyon Airlines crash at Grand Canyon Airport (pp. 3.2-26, 6.5-19).]

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Lord, Alexandra M.

- 2011 (ED.) *American aviation heritage : identifying and evaluating nationally significant properties in U.S. aviation history : a National Historic Landmarks theme study*. [Washington, D.C.]: U.S. Department of the Interior, National Historic Landmarks Program, revised, 314 pp. (Produced by the National Historic Landmarks Program, Cultural Resources, National Park Service, U.S. Department of the Interior, Washington, D.C.; United States Air Force, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio; and National Conference of State Historic Preservation Officers, Washington, D.C.) [Under "1920s Passenger Aircraft" (pp. 78-79), contemporary remarks on flight safety of the Ford Tri-Motor 4-AT in Grand Canyon. Also, regarding the 1956 air crash in Grand Canyon, brief remarks under "The Federal Aviation Act of 1958" (p. 208), and under "Properties Recommended for Further Study" is listed (p. 254) "Grand Canyon Crash Site, Grand Canyon National Park, Arizona" (no details).]

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- 1992 Final destination; the story of Flight 2 and Flight 718. *Airliners*, 5(1) (Spring): 41-46. [1956 air crash.]

McComb, Michael B. [McComb, Mike]

- 2006 Desert disaster; TWA-United mid-air collision over the Grand Canyon. *America's Flyways*, 7(6) (June): cover, 1, 20-26.
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- 2011 Collision over Mencius Temple: 25 years onward. *Airways*, 18(6): 40-46.
- 2025 Grand Canyon 1956 mid-air collision—what aviation archaeology reveals. *In*: Spamer, Earle E. (ed.), *Those Who Made a Difference : proceedings of the 6th Grand Canyon History Symposium, Grand Canyon, Arizona, November 1-4, 2023*. Grand Canyon, Arizona: Grand Canyon Conservancy, pp. 119-124.

McGivney, Annette, AND Smith, Mark

- 2016 June 30, 1956. *Arizona Highways*, 92(6) (June): 48-51. [Regarding the 1956 air crash in Grand Canyon.] [See also p. 3, "Contributors" section, regarding illustrator Mark Smith.] [See also letter from John R. Regnier, (9) (September): 4, which responds to and provides a correction to McGivney and Smith.]

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- 1956 Statement of Capt. William Merrigan, Chairman, Master Executive Council, TWA Pilots Association. *In*: *Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956*. Washington, D.C.: U.S. Government Printing Office, pp. 129-132. [Relating to the 1956 Grand Canyon air crash.]

Milner, Samuel, AND Garonzik, Joseph

- 1983 Thunder from the canyon; the birth of the FAA and a modern airways system. *World* (U.S. Federal Aviation Administration, Washington, D.C.), 13(8) (August): 4-10. [Features the event and aftermath of the 1956 Grand Canyon air crash.]

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- 1990 The Grand Canyon midair collision: A stimulus for change. *American Journal of Forensic Medicine and Pathology*, 11(2) (June): 102-105.

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Nelson, Mike

- 2012 *We are going in : the story of the Grand Canyon disaster*. Bloomington, Indiana: AuthorHouse, 455 pp. [Aircraft disaster of 1956.] [An on-demand publication.]

- 2017 *We are going in : the story of the 1956 Grand Canyon midair collision*. Tucson: Rio Nuevo Publishers, 2nd ed., 455 [456] pp.
- 2020 New group: *Patrons of the 1956 Grand Canyon Midair Collision*. *In*: The Bulletin [NEWSLETTER SECTION]. *The Ol' Pioneer* (Grand Canyon Historical Society), 31(2) (Spring): 12-13. [Announcement.]

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See page 1-3; passing reference to "1959 [sic] mid-air collision over the Grand Canyon by two airliners".

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Nuttall, Kern

- 2015 *In a better place : cemeteries and gravesites of Grand Canyon*. Flagstaff, Arizona: Vishnu Temple Press, 237 pp. [See also the selected guide to the Grand Canyon Pioneers Cemetery on a fold-out sheet by Cindy Stafford (2015).]

1956 MID-AIR COLLISION

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- 2006 Historic disaster led to air traffic control system; in 1956, radarless airliners collided above Grand Canyon, killing 128 aboard. *Disasters Update* ([India] National Institute of Disaster Management), (347) (June 5): 3-5. [From *Los Angeles Times*, June 3, 2006.]

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- 1994 The airline crash of 1956. *Grand Canyon Pioneers Society, Newsletter*, 5(4): 7.

Peterson, Arthur C.

- 1956 Statement of Arthur C. Peterson, Chief, Domestic Aviation Section, Forecasts and Synoptic Reports Division, United States Weather Bureau, Washington, D. C. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 135-144. [Relating to the 1956 Grand Canyon air crash.]

Pittman, Darrel

- 2013 Reminiscing FAA history. *North Dakota Aviation Quarterly* (North Dakota Aviation Council, Bismarck, North Dakota), 25(4) (Fall): 9. [Includes brief notice of the accident and aftermath of the 1956 aircraft collision in Grand Canyon, and brief note of the author's station at Hill Air Force Base, Utah, while in the U.S. Air Force, and training with the Federal Aviation Administration at the Farmington (Utah) Sector of the Salt Lake City Center, requested because that sector encompasses the Grand Canyon.]

Preston, Edmund

- 1998 (ED.; WITH CONTRIBUTORS John R. Breihan, Arnold E. Briddon) *FAA historical chronology : civil aviation and the federal government, 1926-1996.* Washington, D.C.: U.S. Department of Transportation, Federal Aviation Administration, Office of Public Affairs, 2nd ed., 361 pp. [See p. 54, "Jun 30, 1956: A Trans World Airlines Super Constellation and a United Air Lines DC-7 collided over the Grand Canyon".]

Prideaux, Michael

- 1975 (COMPILER) *Disaster.* London: Phoebus Publishing Co.
- 1976 (COMPILER) *World disasters.* Secaucus, New Jersey: Chartwell Books, Inc., in association with Phoebus, 128 pp. [See "The Grand Canyon Collision", pp. 56-57; regarding the 1956 air crash.]

Proctor, Jon

- 1989 TWA's Connies. *Airliners*, (Summer): 28-34. [Includes 1956 air crash.]
- 1991 Lest we forget. *Propliner*, (48): 41-42. [1956 air crash.]

Puffer-Rothenberg, Maureen J.

- 2005 Grand Canyon airliner collision. *In: Super, John C. (ed.), The fifties in America.* Pasadena, California: Salem Press, Vol. 2, pp. 393-394.

Pyle, James T.; Thomas, David; Tippetts, Joseph; AND Davis, William

- 1956 Statements of James T. Pyle, Acting Administrator, Civil Aeronautics Administration; David Thomas, Director of Air Traffic Control Division; Joseph Tippetts, Director of the Office of Air Navigation Facilities; and William Davis, Director of the Office of Flight Operations and Airworthiness. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 199-237. [Relating to the 1956 Grand Canyon air crash.]

Pyle, James T.; White, Gerald F.; Tippetts, Joseph H.; Davis, William; Thomas, David D.; Meisel, Jay; AND Howell, Herbert H.

- 1956 Statements of James T. Pyle, Acting Administrator; Gerald F. White, Chief, Enforcement and Litigation, General Counsel's Office; Joseph H. Tippetts, Director, Office of Air Navigation Facilities; William Davis, Director, Office of Flight Operations and Airworthiness; David D. Thomas, Director, Office of Air Traffic Control; Jay Meisel, Personnel Officer, and Herbert H. Howell, Director of Airports, Civil Aeronautics Administration—resumed. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 238-257. [Relating to the 1956 Grand Canyon air crash.]

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- 2006 June 30, 1956 Grand Canyon mid-air collision—50th anniversary. *Boatman's Quarterly Review*, 19(2) (Summer): 47.

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- 2014 58th anniversary Historic Landmark reception, June 30, 2014. *The Ol' Pioneer* (Grand Canyon Historical Society), 25(3) (Summer): 9-10. [Remarks read at the 58th anniversary commemoration of the 1956 Grand Canyon TWA-United Airlines aviation accident, with the attendance of victims' descendants and family.]
- 2014 Formal National Historic Landmark dedication, July 8, 2014. *The Ol' Pioneer* (Grand Canyon Historical Society), 25(3) (Summer): 11-12. [Remarks read to the dedication of the 1956 Grand Canyon TWA-United Airlines Aviation Accident Site as a National Historic Landmark.]

Rice, M. L.

- 1956 "We are going." *Lake Union Herald* (Seventh-day Adventists, Lake Union Conference, Berrien Springs, Michigan), 48(29) (July 17): 1. [Title quotation refers to the last radio message from a Union Air Lines DC-7 prior to crashing in Grand Canyon.]

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Rossman, George, AND Allen, Richard

- 1963 (ED.-IN-CHARGE, AND ASSISTANT [for section]) Aeronautical law . . . collisions. *In: What's New in the Law* [SECTION]. *American Bar Association, Journal*, 49(4) (April): 372. [Regarding *Ahmann v. United*

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Air Lines, Inc., United States Court of Appeals for the Eighth Circuit, February 6, 1963, Vogel, J.; respecting suit relating to the collision of two commercial airliners over Grand Canyon in 1956. Ellipsis is part of title.]

Rothschild, Louis S.

- 1956 Statement of Hon. Louis S. Rothschild, Under Secretary of Commerce, and Chairman, Air Coordinating Committee. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 277-292. [Relating to the 1956 Grand Canyon air crash.]

S., H.

- 1956 Radar denkt, warnt und lenkt. Mit Radar wurde ein Krieg gewonnen. Können mit Radar Katastrophen verhütet werden? [*transl.* 'Radar thinks, warns, and guides. A war was fought with radar. Can disasters be prevented with radar?'] *Bauen, Wohnen, Leben* (Zürich), (Autumn): 15. [Includes brief note on the 1956 air crash over Grand Canyon. "Fachleute erklären, Radar hätte das Unglück verhindern können." (*transl.* 'Experts say radar could have prevented the accident.')] [In German.]

Sayen, Clarence N.

- 1956 Statement of C. N. Sayen, President of the Air Line Pilots Association, Chicago, Ill. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 52, 93-104. [Relating to the 1956 Grand Canyon air crash.]

Serling, Robert J.

- 1957 Canyon crash has made air safer. *Congressional Record—House*, (July 1): 10707-10708. [Regarding the 1956 air crash in Grand Canyon. Reprinted from the June 30 *Washington Post* and the *Times-Herald* (Washington).]

Shinsuke, Endō [遠藤信介 著]

- 2019 航空輸送100年：安全性向上の歩み. Tōkyō: 日本航空技術協会, 577 pp. [Includes 1956 Grand Canyon crash.]
[In Japanese. Citation in transliteration: Kōkū yūsō hyakunen anzensei kōjō no ayumi. Tōkyō: Nihonkōkū gijutsu kyōkai. Citation translated: 100 years of air transport : steps to improve safety. Tokyo: Japan Aviation Technology Association.]

Sleeth, George

- 1956 Statement of Capt. George Sleeth, Los Angeles Safety Committee. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 116-117. [Relating to the 1956 Grand Canyon air crash.]

Solomon, Jasper S.

- 1956 Statement of Capt. Jasper S. Solomon, a pilot for Trans World Airlines, Inc. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 52-78. [Relating to the 1956 Grand Canyon air crash.]

Speiser, Stuart M.

- 1956 Statement of Stuart M. Speiser, Chairman, Aviation Law Committee, National Association of Claimants' Compensation Attorneys. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 257-270. [Relating to the 1956 Grand Canyon air crash.]

Stafford, Cindy

- 2015 *In a better place: At rest in Grand Canyon Cemetery : a guide to pioneers, Harvey Girls, National Park Service, scholars, community members, veterans, and the 1956 airline crash memorial.* Flagstaff, Arizona: Vishnu Temple Press, large folded brochure, 1 sheet. [See also the comprehensive book by Kern Nuttall (2016).]

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- 1956 Statement of Capt. Lionel Stephan, pilot for American Airlines. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 78-92. [Relating to the 1956 Grand Canyon air crash.]

Stünzi, Walter [see also **Garde aérienne suisse de sauvetage REGA**]

NOTE: The three citations from 2006 are from the French, German, and Italian editions of *1414*, the serial produced in Zurich by REGA, the Swiss Air Rescue Guard (cited here with the trilingual organizational name). Each title translates approximately as "In the hell of the Grand Canyon; memories of a major operation 50 years ago". Regarding the Swiss mountaineer rescue team at the 1956 United Airline crash site in Grand Canyon.

- 2006 Dans l'enfer du Grand Canyon; cinquantenaire d'une intervention spectaculaire. *1414* (REGA: Schweizerische Rettungsflugwacht/Garde Aérienne Suisse de Sauvetage/Guardia Aerea Svizzera di Salvataggio) (Zurich) [French ed.], (67) (November): 28-29, 31. *[In French.]*
- 2006 In der Hölle des Grand Canyon; erinnerungen an einen Grosseinsatz vor 50 Jahren. *1414* (REGA: Schweizerische Rettungsflugwacht/Garde Aérienne Suisse de Sauvetage/Guardia Aerea Svizzera di Salvataggio) (Zurich) [German ed.], (67) (November): 28-29, 31. *[In German.]*
- 2006 Nell'inferno del Gran Canyon; ricordi di un intervento maggiore di 50 anni fa. *1414* (REGA: Schweizerische Rettungsflugwacht/Garde Aérienne Suisse de Sauvetage/Guardia Aerea Svizzera di Salvataggio) (Zurich) [Italian ed.], (67) (November): 28-29, 31. *[In Italian.]*
- 2007 Dans l'enfer du Grand Canyon; cinquantenaire d'une intervention spectaculaire de la Garde Aérienne Suisse de Sauvetage. *LAR Report* (Luxembourg Air Rescue A.s.b.l.), (April): 24-25. *[In French. Title*

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translated: In the hell of the Grand Canyon; memories of a major operation 50 years ago of the Swiss Air Rescue Guard.]

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- 2025 The 15 technologists of United Flight 718—some of the nation’s leading technologists perished on Chuar Butte on June 30, 1956 *In:* Spamer, Earle E. (ed.), *Those Who Made a Difference : proceedings of the 6th Grand Canyon History Symposium, Grand Canyon, Arizona, November 1-4, 2023*. Grand Canyon, Arizona: Grand Canyon Conservancy, pp. 109-118. [The author’s father was one of the technologists.]

Summers, Fred

- 1956 Statement of Fred Summers, Air Transport Division, Transport Workers Union, AFL-CIO. *In:* *Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956*. Washington, D.C.: U.S. Government Printing Office, pp. 271-276. [Relating to the 1956 Grand Canyon air crash.]

Taneja, Narinder, AND Wiegmann, Douglas A.

- 2001 Analysis of mid-air collisions in civil aviation. *In:* *Proceedings of the 45th Annual Meeting of the Human Factors and Ergonomics Society, Santa Monica, CA*. [Includes reference to 1956 Grand Canyon air crash.]

Taylor, Maxwell D.

- 1956 *General Orders No. 39. Soldier’s Medal—Awards. Commendation Ribbon with Metal Pendant—Awards*. Washington, D.C.: U.S. Army, The Adjutant General’s Office, 4 pp. (TAGO 1085B—Aug. 40478°—56.) [Medals awarded to U.S. Army officers relating to service in the Grand Canyon following the June 1956 crash of two commercial airliners.] [Gen. Maxwell D. Taylor, U.S. Army, Chief of Staff, by order of Wilber M. Brucker, Secretary of the Army (by direction of the President). Official: Maj. Gen. John A. Klein, U.S. Army, The Adjutant General.]

Timmerman, Craig F.

- 1956 Statement of Craig F. Timmerman, Air Transport Association. *In:* *Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956*. Washington, D.C.: U.S. Government Printing Office, pp. 336-343. [Relating to the 1956 Grand Canyon air crash.]

U.S. Civil Aeronautics Board

- NO DATE SA-320/File No. 1-0090. *Adopted: April 1957—Released: April 17, 1957. Civil Aeronautics Board : Accident Investigation Report : midair collision, Trans World Airlines Lockheed L-1049A N6902C, United Air Lines Douglas DC-7 N6324C over Grand Canon, Arizona, June 30, 1956*. Converse, Texas: AIREPORTS, 32 pp. + 4 leaves illustrations. (TW1.) [Transcription copyright AIREPORTS. Completely reset with justified margins. Cover sheet: *Civil Aeronautics Board Accident Investigation Report : midair collision : Trans World Airlines L-1049A N6902C, United Air Lines DC-7 N6324C over Grand Canyon, Arizona, June 30, 1956*.]

1956 MID-AIR COLLISION

- 1957 Trans World Airlines, Inc., Lockheed 1049A, N 6902C, and United Air Lines, Inc., Douglas DC-7, N 6324C, Grand Canyon, Arizona, June 30, 1956. *U.S. Civil Aeronautics Board, Accident Investigation Report SA-320*, File No. 1-0090, adopted April 15, 1957, released April 17, 1957. [Report prepared by James R. Durfee, Chan Gurney, Harmar D. Denny, and G. Joseph Minetti (as noted on last page of text, which also notes, "Member Louis J. Hector did not take part in the adoption of the report.")]

NOTE: Two variants have been seen; both mimeographed:

Variant 1, with p. 1 displaying typewritten series title, "C I V I L A E R O N A U T I C S B O A R D ACCIDENT INVESTIGATION REPORT", thus; text 53 pp. typed 1½-spaced, [4]-p. illustrations, "Supplemental Data" paginated i-v.

Variant 2, with p. 1 displaying block-lettered series title, "CIVIL AERONAUTICS BOARD ACCIDENT INVESTIGATION REPORT", in non-bold and bold type, thus; text 25 pp. typed single-spaced, with "Supplemental Data" paginated i-iii, and [4]-p. illustrations.

Although both variants employ monospaced characters, *Variant 2* is typed with a more condensed character spacing than as used in *Variant 1*. The timing of these states is undetermined here. Also undetermined here is the faithfulness of texts to each other, although they seem to be identical.

- 1957 *Annual report of the Civil Aeronautics Board : 1957*. Washington, D.C.: U.S. Government Printing Office, 44 pp. [See "Grand Canyon collision", p. 27.]

U.S. House of Representatives, Committee on Interstate and Foreign Commerce, Subcommittee

- 1956 *Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956*. Washington, D.C.: U.S. Government Printing Office, 343 pp. [Relating to the 1956 Grand Canyon air crash. Remarks by individuals are separately cited throughout this bibliography.]

U.S. National Park Service, Director [Wirth, Conrad L.]

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U.S. National Park Service, Intermountain Region, Heritage Partnerships Program

- [2012?] *Arizona*. U.S. National Park Service, Intermountain Region, Heritage Partnerships Program, 6 pp. [Undated. Includes a project pertaining to the 1956 Grand Canyon TWA-United Airlines Mid-Air Collision Site National Historic Landmark nomination (Grand Canyon).]

U.S. National Park Service, National Register of Historic Places

- 2014 *1956 Grand Canyon TWA-United Airlines Aviation Accident Site*. National Historic Landmark nomination; Grand Canyon National Park Archaeological Site AZ:C:13:07555). [Nomination prepared February 10, 2011; Ian Hough, Grand Canyon, Arizona; Benjamin Carver, Flagstaff, Arizona; Susan Ciani Salvatore, Washington, D.C. (Alexandra Lord and Susan Ciani Salvatore, eds.). *Summary*: "The 1956 Grand Canyon United-TWA Aviation Accident Site meets National Historic Landmark Criterion 1 for its association with the modernization of America's aviation airways. On June 30, 1956, a Trans World Airlines Super Constellation L-1049 and a United Air Lines DC-7 collided in uncongested airspace 21,000 feet over the Grand Canyon in Arizona, killing all 128 people onboard the two flights. Regarded as an important watershed in aviation history, the accident dramatically accelerated movements to address an airway crisis created by improved aircraft technology, the advent of the jet age, increasing traffic in the airspace system, and the fact that little had been done to expand the

1956 MID-AIR COLLISION

capacity of the air traffic control system. As a result, in August 1957 President Eisenhower signed the Airways Modernization Act, a prelude to establishing the Federal Aviation Agency.”]

Warren, Ronald L. [Warren, Ron]

- 1993 Toll restricted. *Grand Canyon Pioneers Society, Newsletter*, 4(8): 5. [Pertaining to telephones in use at Red Butte and Tusayan during the recovery operations of the 1956 air crash in Canyon.]
- 1994 [Letter regarding 1956 air crash.] *Grand Canyon Pioneers Society, Newsletter*, 5(5): 7-8.

White, Gerald F.

- 1956 Statement of Gerald F. White, Office of the General Counsel, Civil Aeronautics Administration, Washington, D. C. *In: Airspace use study : hearings before a subcommittee of the Committee on Interstate and Foreign Commerce, House of Representatives, Eighty-fourth Congress, Second Session, on use of airspace : July 7, 18, September 11, 12, and 13, 1956.* Washington, D.C.: U.S. Government Printing Office, pp. 48-50. [Relating to the 1956 Grand Canyon air crash.]

COVERAGE IN *THE NEW YORK TIMES*

The New York Times was selected for bibliographical coverage of Grand Canyon–Colorado River items at the time when the original bibliography was begun, in 1974. Access in those days was only through hardcopy collections or through microfilms; thus there was a perceived need to cite material from this newspaper, which spanned the entire history of the canyon and river from the mid-1800s. Today, *The New York Times* is accessible through search screens online at <https://nytimes.com>; most if not all of the items cited here may be examined in facsimile images and downloaded as PDFs. However, it has been experienced more recently that some cited items, from multi-section editions, are no longer indexed and accessible online. (An online subscription may be needed.) Paginations generally refer to the City Edition of the paper. The citations as displayed in this bibliography thus may not perfectly represent a particular copy of the paper seen by a user, or for that matter a copy on *The Times*’ website. Some reordering of articles on different pages between the day’s editions, the result of the daily work of the editors of *The Times*, may be discovered in one’s own research.

Reading through the citations here offers a detailed perspective of a national/international newspaper’s coverage of the accident and its aftermath, usually in greater overall breadth than that which may have appeared in local papers, especially if they were editing newswire service reports. The citations are in chronological order.

1956 MID-AIR COLLISION (*New York Times* Coverage)

- 1956 (July 1) Two airliners carrying 128 vanish in West; wreckage of one sighted in Grand Canyon. No sign of life. 70 on crashed T.W.A. plane — United craft is still missing. (pp. 1, 42)
- 1956 (July 1) Record toll seen for air disaster. Total of 128 deaths in two missing planes will exceed 1950 Wales crash by 48. (p. 42)
- 1956 (July 1) List of those on two planes. (p. 42) [See also revised list, July 2.]
- 1956 (July 2) All 128 on 2 airliners found dead; craft presumed to have collided before crashing in Grand Canyon. 'Copter at scene. Plans are laid to fly out victims' bodies—Inquiry starts. (pp. 1, 14)
- 1956 (July 2) C.A.A. scans logs for clue to crash. Official says radio reports by pilots will be studied—T.W.A. changed altitude. (pp. 1, 14)
- 1956 (July 2) No large pieces of craft sighted. Charred rock on knoll with bits of metal and paint only remains of DC-7. Bodies are not visible. 3 in helicopter see wrecks about a mile apart—Some debris buried. (p. 14)
- 1956 (July 2) Sketches of victims in the air crash. (p. 14)
- 1956 (July 2) U.S. seeks to end collision hazard. 5-year program attempts to improve traffic in air—"Urgent action" asked. (p. 14)
- 1956 (July 2) "It can't happen to you". Pilot in crash called plane safe if it flew on course. (p. 14)
- 1956 (July 2) California victims were on vacations. (p. 14)
- 1956 (July 2) St. Patrick's worshipers pray for crash victims. (p. 14)
- 1956 (July 2) 2 airliners fell in a wilderness. Region a tangle of canyons and buttes visited only rarely by tourists. (p. 15)
- 1956 (July 2) List of dead on 2 planes. (p. 15) [Revised list.]
- 1956 (July 2) 128 death toll makes airline mishap worst. (p. 15)
- 1956 (July 2) Two lines offer to fly relatives to crash area. (p. 15)
- 1956 (July 2) Plane's last message was "We are going—". (p. 15)
- 1956 (July 2) London paper shows canyon. (p. 15)
- 1956 (July 2) Crash deaths mark first for a DC-7. (p. 15)
- 1956 (July 2) Plane crash detective. William Kossuth Andrews. (p. 15) [Director, Civil Aeronautics Board, Bureau of Safety Investigation.]
- 1956 (July 2) When the averages fail. [Editorial.] (p. 20)
- 1956 (July 3) Removal of air victims starts; wreckage in canyon is studied. By **Gladwin Hill**. (pp. 1, 12)
- 1956 (July 3) Visual rules put pilot on his own. No flight plan is needed at times of good visibility—Air controls urged. By **Alvin Shuster**. (p. 12)

1956 MID-AIR COLLISION (*New York Times* Coverage)

- 1956 (July 3) Smathers demands investigation of C.A.A. to check air safety. He says flight procedures must be examined to insure aviation future. (p. 12) [Senator George A. Smathers.]
- 1956 (July 3) C.A.A. says planes were off course. United and T.W.A. aircraft flew north of route—Events are reviewed. (p. 13)
- 1956 (July 3) Air traffic control. (p. 24) [Editorial.]
- 1956 (July 4) Paint mark hints of crash in mid-air. Officer at scene of airliner wreck reports strange smear on T.W.A. tail. By **Gladwin Hill**. (p. 13)
- 1956 (July 4) Swiss to send rescue squad. (p. 13)
- 1956 (July 4) Crash victims insured. \$2,000,000 worth held by passengers on fatal flights. (p. 13)
- 1956 (July 4) Inquiry on air traffic control ordered by House committee. (p. 13)
- 1956 (July 5) Climbers seeking plane wreckage. Try to scale butte to reach United craft — T.W.A. to conduct mass burial. By **Gladwin Hill**. (p. 49)
- 1956 (July 6) 2 'Copters land at 2nd crash site. Crews bring out wreckage of United plane and drop mountaineers at spur. (p. 13)
- 1956 (July 6) House inquiry to begin. (p. 13)
- 1956 (July 6) By air — and road. [Editorial.] (p. 20)
- 1956 (July 6) Air control flaw charged in crash. Pilots chief says collisions are an inherent possibility under dual system. By **Gladwin Hill**. (p. 13)
- 1956 (July 7) Swiss begin search in Grand Canyon, climbing and descending to plane site. (p. 34)
- 1956 (July 7) 148 letters recovered. (p. 34)
- 1956 (July 8) U.S. official lays responsibility before collision to T.W.A. pilot. C.A.B. inspector says plane on visual flight system had to be "on lookout". (pp. 1, 49)
- 1956 (July 8) Air crash aftermath. (p. 132) [Editorial.]
- 1956 (July 8) Victim insured for \$636,352. (p. 49)
- 1956 (July 9) C.A.B. chief denies fault was T.W.A.'s. Say United pilot also had responsibility in crash—House group at scene. (p. 8)
- 1956 (July 10) 67 crash victims buried in Arizona. 350 relatives, friends and 1,500 other mourners attend joint service. (p. 21) [Flagstaff, Arizona.]
- 1956 (July 11) 29 DC-7 dead identified. Mass services to be held for 29 others in canyon crash. (p. 10)
- 1956 (July 11) The helicopter heroes. [Editorial.] (p. 28)
- 1956 (July 14) Insurance claims may be \$5,500,000. (p. 32)

1956 MID-AIR COLLISION (*New York Times* Coverage)

- 1956 (July 14) Air rules change called difficult. Eisenhower aide sees safety in present system—C.A.B. to start inquiry Aug. 1. (p. 32)
- 1956 (July 16) Sight-seeing hinted as air crash cause. (p. 42)
- 1956 (July 19) Sight-seeing called cause of 2 crashes. (p. 54)
- 1956 (July 28) C.A.B. names panel for inquiry into Grand Canyon plane crash. Hearings by 6-man group to start Aug. 1—House unit asks policy overhaul and scores Commerce Department. (p. 34)
- 1956 (August 2) Witnesses tell of plane crash. Couple in car saw airliners collide June 30 — Testimony does not solve mystery. By **Joseph A. Loftus**. (p. 48)
- 1956 (August 3) Flight plan shift bared at inquiry. Traffic controllers knew 2 airliners were due at same spot over Arizona. (p. 38)
- 1956 (August 3) Rescuers honored. (p. 38)
- 1956 3(August 4) Expert finds U.S. not at fault in Grand Canyon plane crash. C.A.B. inquiry is told airliners were flying in uncontrolled air space — no violation of regulations seen. By **Joseph A. Loftus**. (p. 32)
- 1956 (August 5) Aviation: Collisions. Airline pilots taking lead in plans to erase dangers in crowded skies. By **Richard Witkin**. (p. X 29)
- 1956 (September 5) Air collision hearing set. (p. 25)
- 1956 (September 6) C. J. Lowen Jr., 41, C.A.A. chief, dies. Former Denver safety head was appointed to U.S. post last December. (p. 25)
- 1956 (September 12) Skies were clear in canyon crash. (p. 74)
- 1956 (September 13) Canyon "airway" created. (p. 70)
- 1956 (September 13) New plan needed for traffic in air. C.A.A. acting chief terms present system inadequate for post-war expansion. (p. 70)
- 1956 (November 3) 7 'Copter men honored. (p. 46)
- 1956 (December 8) 2 airlines sued for 1.6 million. (p. 29)
- 1957 (April 16) Widow sues airlines. (p. 67)
- 1957 (April 18) Canyon air crash termed mystery. C.A.B. says pilots probably did not see each other, but reason is unclear. By **Richard E. Mooney**. (p. 58)
- 1957 (July 1) New airway to open. C.A.A. to begin route over Grand Canyon Thursday. (p. 44)
- 1957 (November 10) Collision killing 128 top airlines disaster. (p. 72)
- 1958 (August 30) 2 airlines in crash blame C.A.A. group. (p. 30)
- 1959 (March 15) Crash suit settled. Wife of victim of '56 collision had asked \$350,000. (p. 60)

1956 MID-AIR COLLISION (*New York Times* Coverage)

- 1959 (June 21) Jury votes \$500,000. Damages given in air deaths of three auto executives. (p. 64)
- 1960 (May 19) Jury holds T.W.A. at fault in crash. (p. 40)
- 1960 (June 14) \$100,000 for air death. (p. 6)
- 1960 (September 24) Air crash damages set. Jury acts in two of 128 deaths in airlines collision. (p. 5)
- 1962 (March 2) 2 airlines libable for mid-air crash. (p. 16)
- 1962 (March 14) Inquirer into welfare. Samuel Hazard Gillespie. (p. 28) [Article begins with note of Gillespie's in-the-field examination of the 1956 airliner crash sites in Grand Canyon.]
- 1963 (February 8) Court reinstates awards to estates of T.W.A. pilots. (p. 11)



PART 3

ADMINISTRATIVE MATTERS

RELATING TO

GRAND CANYON AVIATION

ADMINISTRATIVE MATTERS

ALTHOUGH THE 1960s and 1970s witnessed the first inklings of environmental concerns that might consider natural conditions alongside public experiences at the Grand Canyon, the 1980s saw the floodgates open when debates erupted over overflights and the quality of “natural quiet” at the canyon. These were not simply academic considerations, but moved into legislative and judicial theaters in addition to the widespread court of public opinion. Not since the threats of dams in the Colorado River around the Grand Canyon, in the 1960s and 70s, had a single issue of environmental and aesthetic concern reached such a pitch, setting public, businesses, and politicians on such a contentious trajectory of argument, litigation, and administrative wrangling. Concerns over the noise of overflights destroying the ability to experience “natural quiet” at the canyon were countered by the perceived need to offer the visiting public many ways by which to engage themselves with the canyon. Unfettered and increasing numbers of air tours were considered detriments to the canyon experience, but were championed by those who leaned toward businesses’ right to provide for what they saw as the traveling public’s expectations. Helping push the arguments for greater control over flight frequency as well as regulations on where flights—tours and general aviation alike—could fly were the increase in the number of accidents, many of them with fatalities (see the section on “[Aviation Accidents](#)” herein).

The citations in this part of *Aerial Grand Canyon* relate to executive, legislative, and judicial actions, management issues, and concomitant concerns that pertain to aviation in the Grand Canyon airspace. (High-altitude commercial flights have always been exempt from flight and airspace regulation.) Individual articles and summaries are cited, as well as broader treatments that included aerial issues within them, such as various “master,” “general management,” “strategic,” and “wilderness” plans crafted for the Grand Canyon.

Anonymous

- 1985 NSP [*sic*] schedules hearings on aircraft in Grand Canyon. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 21(8) (October): 2. [National Park Service.]
- 1985 U.S. studies ban on flights in Grand Canyon. *The New York Times*, (November 3): 30.
- 1986 Grand Canyon flights stir heated debate. *International Wildlife*, 16 (March/April): 32.
- 1986 Noise alert: Grand Canyon aircraft management. *Courier* (U.S. National Park Service), 31(4) (April): 9.

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- 1986 Canyon flights. *In*: Conservation Notes [SECTION]. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 22(4) (April): 5.
- 1986 Canyon flights update. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 22(5) (May): 8.
- 1986 Park Service rejects a limit of Grand Canyon flight times. *The New York Times*, (May 28): A16.
- 1986 House tackles aircraft noise from overflights as park problem. *National Parks*, 60(5/6): 6.
Includes mention of Grand Canyon.
- 1986 Grand Canyon. *Ranger Activities Information Exchange* (U.S. National Park Service), 2(10) (October): 2.
"On August 31st, about 80 members of Earth First conducted a demonstration in opposition to aircraft overflights of Grand Canyon and uranium mining outside of the park. They were dressed as 'nuclear inspectors' with white clothing and gas masks, and used sawdust to demonstrate how fallout could filter down onto the park. The group was geneally orderly and no problems were experienced."
(ENTIRE NOTE)]
- 1986 F.A.A. is proposing banning all flights in the Grand Canyon. *The New York Times*, (December 6): 34.
- 1986 In the Grand Canyon the "eternal silence" is shattered. *Hibernacle News*, 1986: 6.
Facsimile from undocumented issue of *High Country News*.
- 1987 Overflight rules not tough enough. *National Parks*, 61(3/4) (March/April): 46-48.
- 1987 April 16 (THUR), Paleo Verde General Membership Meeting. *In*: Group Notes [SECTION]. *Canyon Echo* (Sierra Colub, Grand Canyon Chapter), 23(3) (April): 3.
"The main speaker will be Richard Marks, Superintendent of the National Park Service at the Grand Canyon National Park. Mr. Marks will inform us on the Nation [*sic*] Park Service's official stand on two highly controversial issues: the uranium mining going on near the Grand Canyon, and the Grand Canyon overflights. Mr. Dan Daggett, of the Plateau Group of the Sierra Club, who has spearheaded the Sierra Club's activities in opposition to the mining and has also been active in the efforts to have the Grand Canyon overflights outlawed, will tell us his viewpoints on both issues and how we, as Sierra Club activists, can effectively work to prevent environmental catastrophes."
- 1987 Overflight bill includes flight-free zones. *National Parks*, 61(5/6) (May/June): 38.
- 1987 New law curbs flights over 3 national parks. *The New York Times*, (August 21): B9.
- 1987 Park overflight bill passes both houses. *National Parks*, 61(9/10) (September/ October): 6.
- 1987 Overflight victory. *In*: News Update [SECTION]. *National Parks*, 61(11/12) (November/ December): 11. [Brief.]
- 1987 Quiet zones in the canyon. *Time*, (December 21).
Aircraft overflights.
- 1988 Park Service seeks low-level flight ban. *Great Lakes Intercom* (U.S. Federal Aviation Administration, Great Lakes Region, Des Plaines, Illinois), no. 87-26 (January 1, 1988): 2.
Grand Canyon National Park.
- 1988 Interior releases plan for Grand Canyon flights. *National Parks*, 62(3/4) (March/April): 12.
- 1988 Aircraft management update. *Grand Canyon River Guides* [newsletter], 1(1) (April): 2.

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- 1988 Aircraft flight management proposals. *Grand Canyon River Guides* [newsletter], 1(1) (April): [insert, 1 p.].
- 1988 FAA and Interior haggle of Grand Canyon flights. *National Parks*, 62(5/6) (May/June): 8.
- 1988 Flights over Grand Canyon are being further restricted. *The New York Times*, (May 29): 26.
- 1988 Tourist trap? *In*: Reporting Points [SECTION]. *Flying*, 115(9) (September): 14-15.
Special Flight Rules Area, Grand Canyon National Park.
- 1988 Grand Canyon Aircraft Management Plan. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 24(7) (September): 3.
Notice of Final Rule.
- 1988 Military overflights pose major threat, say parks. *National Parks*, 62(11/12) (November/December): 12.
Notes Grand Canyon.
- 1989 Update on aircraft overflight studies. *Ranger Activities Information Exchange* (U.S. National Park Service), 5(1) (March): 5-6.
Remarks pertaining to Grand Canyon, p. 6.
- 1990 Grand Canyon overflights. *In*: News Update [SECTION]. *National Parks*, 64(7/8) (July/August): 9.
- 1992 Whuddya think? *The News* (Grand Canyon River Guides), 5(3) (Summer): 8.
Topic: Helicopters at Whitmore. Responses from Mary Lou Miller, Edie Crawford, Shane Murphy, and Nels Niemi.
- 1992 Can we still hear the canyon wren's call? Trust presses for tighter controls on canyon air tours. *Colorado Plateau Advocate*, (Summer): 1-2.
Grand Canyon Trust.
- 1992 Grand Canyon air tours. *Colorado Plateau Advocate*, (Fall): 5.
- 1993 FAA backs off. *The News* (Grand Canyon River Guides), 6(1) (Winter 1992/1993): 10.
- 1993 Wuddyathink? *The News* (Grand Canyon River Guides), 6(1) (Winter 1992/1993): 32.
Topic: Air traffic. Brief responses from Mimi Murov, Tom Dimock, Russell, and Brad Dimock.
- 1993 [Brief response to] Wuddyathink? *The News* (Grand Canyon River Guides), 6(1) (Winter 1992/1993): 32. [Item signed "Russell".]
Topic: Air traffic.
- 1993 Aircraft noise lingers at Grand Canyon. *National Parks*, 67 (November/December): 13-14.
- 1994 End the flights. *High Country News*, (May 30): 2.
- 1994 Agencies take on park overflights. *National Parks*, 68(5/6): 9-10.
- 1994 Stop the air raid on our national parks. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 30(5) (June): 1, 9.
- 1994 FAA will regulate air tours. *NORS Currents* (National Organization for River Sports), (Summer): 4.
- 1994 FAA reverses policies on Grand Canyon overflights. *Colorado Plateau Advocate*, (Winter): 5.

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- 1995 NPS study recommends curbs on overflights. *National Parks*, (January/February): 15-17.
- 1995 Regulatory reform vs. natural quiet? *Colorado Plateau Advocate*, (Spring/Summer): 11.
- 1995 Rocky Mountain [regional report]. *National Parks*, (September/October): 18.
Aircraft overflights legislation.
- 1995 NPS study recommends curbs on overflights. *National Parks*, 69(1/2): 15-16, 18.
- 1995 Plane crash, new rules fuel overflights debate. *National Parks*, 69 (May/June): 20.
- 1996 Natural quiet; rulemaking drags on! *Colorado Plateau Advocate*, (Spring): 11.
- 1996 Air tour industry awaits decisions. *National Parks*, 70 (May/June): 18.
- 1996 Trust scores overflights victory. *Colorado Plateau Advocate*, (Summer): 14.
Grand Canyon Trust.
- 1996 Overflight update. *Boatman's Quarterly Review*, 9(3): 5.
- 1996 Lots of action on Canyon overflights. *Colorado Plateau Advocate*, (Winter): 7.
- 1996 Overflights rule not tough enough. *National Parks*, 70(11/12): 15-16.
- 1996 "Quiet" copter flight tested; intended as flying glass-bottom boat for tourists to Grand Canyon area. *Aviation Week and Space Technology*, 145(12): 66.
- 1996 One-third of Grand Canyon air tour operators dodge fees; air tour numbers may be twice those reported. *Canyon Echo* (Sierra Club, Grand Canyon Chapter), 32(9) (December-January 1996 [*sic*, December 1996/January 1997]): 7-8.
- 1997 Priorities [SECTION]. *Sierra*, 82(2) (March): 24.
Aircraft noise.
- 1997 FAA delays new Grand Canyon rules. *In*: Administrator's Column. *Montana and the Sky* (Montana Department of Transportation, Aeronautics Division), 48(3) (March): 2.
- 1997 FAA rules on air tours in two parks. *National Parks*, 71(3/4): 19-20.
- 1997 Wrangling over canyon quiet. *Colorado Plateau Advocate Express*, (April): [2].
- 1997 FAA delays park flight rules. *National Parks*, 71(5/6) (May/June): 19-20.
- 1998 NO TAR. *The Waiting List* (Grand Canyon Private Boaters Association), 2(1) (February): 13.
No tail-rotor helicopter for National Park Service use.
- 1998 Southwest. *In*: Region Report [SECTION]. *National Parks*, 72(11/12) (November/ December): 20.
Grand Canyon overflights.
- 1998 Hark! Do I hear a chorus of cascading pine cones? *Outside*, 23(12): 42.
Noise pollution; Grand Canyon mentioned *in passing*.
- 1999 The Canyon flight controversy. *Flagstaff Live!*, 5(23) (June 10-16): 9.
- 1999 FAA proposed new park overflight rules blasted. *In*: Administrator's Column. *Montana and the Sky* (Montana Department of Transportation, Aeronautics Division), 50(8) (August): 2.

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- 1999 FAA does it again. *Boatman's Quarterly Review*, 12(3) (Summer): 23.
- 1999 [Note on airtour limits over Grand Canyon.] *In*: Regional Report [SECTION]. *National Parks*, 73(9/10): 20.
- 1999 Big noise over the Grand Canyon. *Noise and Vibration Worldwide*, 30(8) (September): 21-22.
- 2000 Noise from above. *In*: Sound Bites [SECTION]. *Soundscape* (The Journal of Acoustic Ecology) (World Forum for Acoustic Ecology, Simon Fraser University, School of Communication, Burnaby, British Columbia), 1(1) (Spring): 32.
Notes on new tour overflights rules at Grand Canyon National Park.
- 2000 Wilderness issues and overflights. *Nature Notes* (Grand Canyon National Park), 16(1) (Summer): 11.
- 2000 Tighter regulations on flights over Grand Canyon National Park. *In*: Announcements and Wilderness Calendar [SECTION]. *International Journal of Wilderness*, 6(3) (December): 45.
- 2001 Canyon air tours from Las Vegas curbed. *The New York Times*, (May 27): Travel Section, p. 3.
- 2003 FAA calls for quieter Grand Canyon. *Flight International*, (May 27): 24.
- 2011 Special Flight Rules for Grand Canyon National Park Draft Environmental Impact Statement available. *In*: Current Issues [SECTION]. *Desert Report* (Sierra Club, California/Nevada Desert Committee), (March): 10.
- 2011 Draft EIS for Special Flight Rules now available. *Boatman's Quarterly Review*, 24(1) (Spring): 23.
- 2011 Park Service finally drafts a solution to conflicts over canyon flights. *High Country News*, 43(10) (June 13): 18-19.
- 2011 S-76D helicopter program accelerates toward certification. *Nation Shield* (United Arab Emirates Armed Forces, Abu Dhabi), (477) (October).
Takes note of Sikorsky S-76D helicopter's "'Grand Canyon' standard of quiet.
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Takes note of Sikorsky S-76D helicopter's "'Grand Canyon' standard of quiet.
- 2012 Park's noise plan upsets everyone equally. *Noise and Vibration Worldwide*, (April): 19.
Overflights and soundscapes.
- 2012 Grand Canyon to remain noisy, at least for now. *In*: Current Issues [SECTION]. *Desert Report* (Sierra Club, California/Nevada Desert Committee) (Los Angeles), (September): 22.
Aircraft overflights.

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- 1998 Statement of K. K. Ahuja, Professor and Regents Researcher, Georgia Institute of Technology. *In: The Grand Canyon National Park : Oversight hearing before the Subcommittee on National Parks and Public Lands of the Committee on Resources, House of Representatives, One Hundred Fifth Congress, Second session : on Analysis of National Park Service data on air overflight sound at the Grand Canyon National Park, and the Grand Canyon River Wilderness Management Plan and associated Colorado River Management Plan : September 24, 1998, Washington, DC : Serial No. 105-109.* Washington, D.C.: U.S. Government Printing Office, pp. 16-17. [In transcript, Prof. Ahuja gives his name as "Krish Ahuja".]
- 1998 Written remarks for testimony at the oversight hearing dealing with: "The Analysis of National Park Service Data on Air Overflight sound at Grand Canyon National Park". *In: The Grand Canyon National Park : Oversight hearing before the Subcommittee on National Parks and Public Lands of the Committee on Resources, House of Representatives, One Hundred Fifth Congress, Second session : on Analysis of National Park Service data on air overflight sound at the Grand Canyon National Park, and the Grand Canyon River Wilderness Management Plan and associated Colorado River Management Plan : September 24, 1998, Washington, DC : Serial No. 105-109.* Washington, D.C.: U.S. Government Printing Office, pp. 127-140.

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- 1999 Statement of John Alberti, owner, JR Engineering. *In: Issues regarding the new NPS methodology used to evaluate the achievement of natural quiet restoration standards in Grand Canyon National Park : oversight hearing before the Subcommittee on National Parks and Public Lands of the Committee on Resources, House of Representatives, One Hundred Sixth Congress, first session, May 25, 1999, Washington, DC : Serial No. 106-33.* Washington, D.C.: U.S. Government Printing Office, pp. 25-45.

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Cover title is cited. Title on document cover sheet: *Reevaluation of Final Environmental Assessment : proposed revisions to Special Flight Rules in the vicinity of Grand Canyon National Park*. First leaf is "Executive Correspondence" memorandum signed by Nancy B. Kalinowski: "Environmental Assessment; Finding of No Significant Impact; Reevaluation; Special Flight Rules in the vicinity of Grand Canyon National Park".

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First leaf is transmittal sheet signed by Reginald C. Matthews. [Received accompanied by 34-page document headed [square bracket is part of title, not closed]: "4910-13 Department of Transportation Federal Aviation Administration 14 CFR Parts 91, 93, 121, and 135 [Docket No. 28537; Amendment Nos. 91-253, 93-73, 121-262, Special Flight Rules in the vicinity of Grand Canyon National Park Agency: Federal Aviation Administration (FAA), DOT Action: Notice of clarification: request for comments. Dates: Comments must be received on or before (insert 60 days from date of publication)". Apparently a draft of item to appear in the *Federal Register*, but with signature of John S. Walker, hand-dated 27 October 1997.

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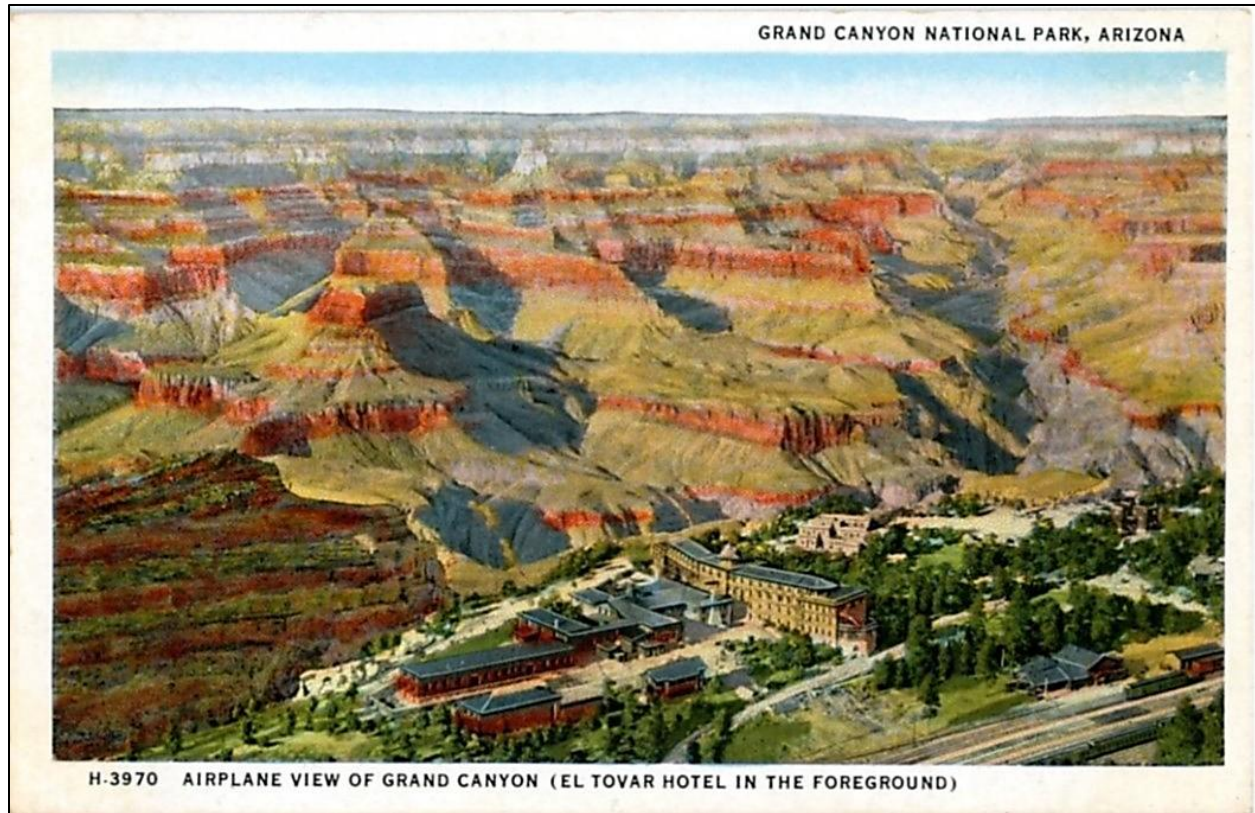
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Overflight management. Author's name misspelled in by-line as Dave Yeomans; correct in signature.



SELECTED POSTCARD AERIAL VIEWS

See also in the introduction to Part 2 (pp. 112–113)

Postcard titles and other information are provided. Descriptive legends from the postcard backs are quoted. (All cards are from the compiler's collection.)

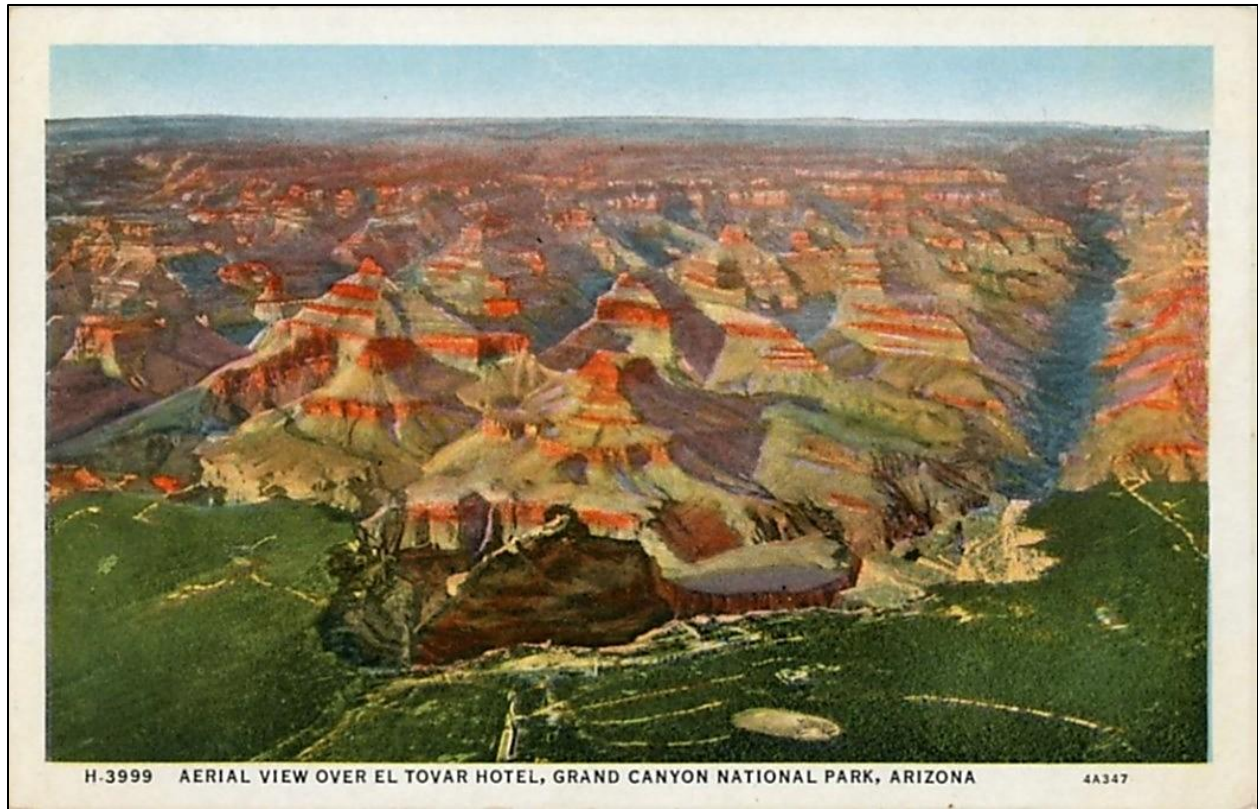


Grand Canyon National Park, Arizona Airplane View of Grand Canyon (El Tovar Hotel in the Foreground)

Fred Harvey H-3970

Undated

"The Grand Canyon is not a mere narrow frowning gash of incredible depth, but a broad underworld that reaches to the uttermost horizon and seems as vast as the earth itself, studded with immeasurable pyramidal mountains of massive bulk hewn from the gaudiest rockstrata [*sic*] that barely lift the cones and turrets of their crests to the level of the eye, and banded over all with vivid colors of transparent brilliancy that are harmonized by atmosphere and refraction to a marvelous delicacy."



Aerial View Over El Tovar Hotel, Grand Canyon National Park, Arizona

Fred Harvey H-3999

Undated

“With the first view of the Canyon from El Tovar one turns over in his mind all the superlatives of his vocabulary in a vain effort to find a descriptive word that fits the scene. The futility of this is evident in a little while, and the observer settles down upon the rim to try to form in simple words his idea of what the Canyon really is, and what it means, as it lies there in the sun, so big, so grand and so inspiring.”

POSTCARD AERIAL VIEWS



Grand Canyon From the Air

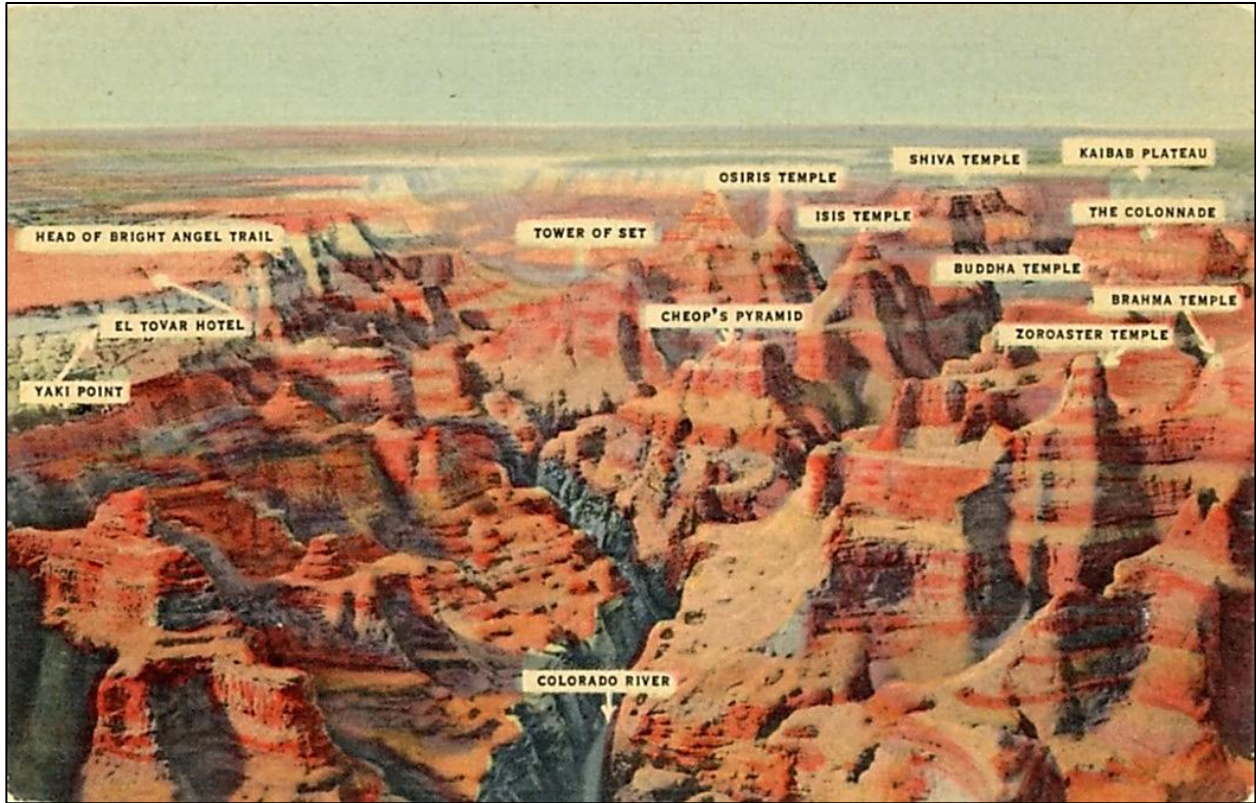
Lollesgard Specialty Co., Tucson GC-2

Genuine Curteich-Chicago "C.T. Art-Colortone" Post Card

Undated

"The village of Grand Canyon seen in this air-view, gives a comparison of the works of man with the wonders of nature. El Tovar Hotel, Bright Angel Lodge and cottages, also other sections of the village may be readily recognized as well as the Battleship and other noted peaks. Photo courtesy 'TWA Air Lines'"

POSTCARD AERIAL VIEWS



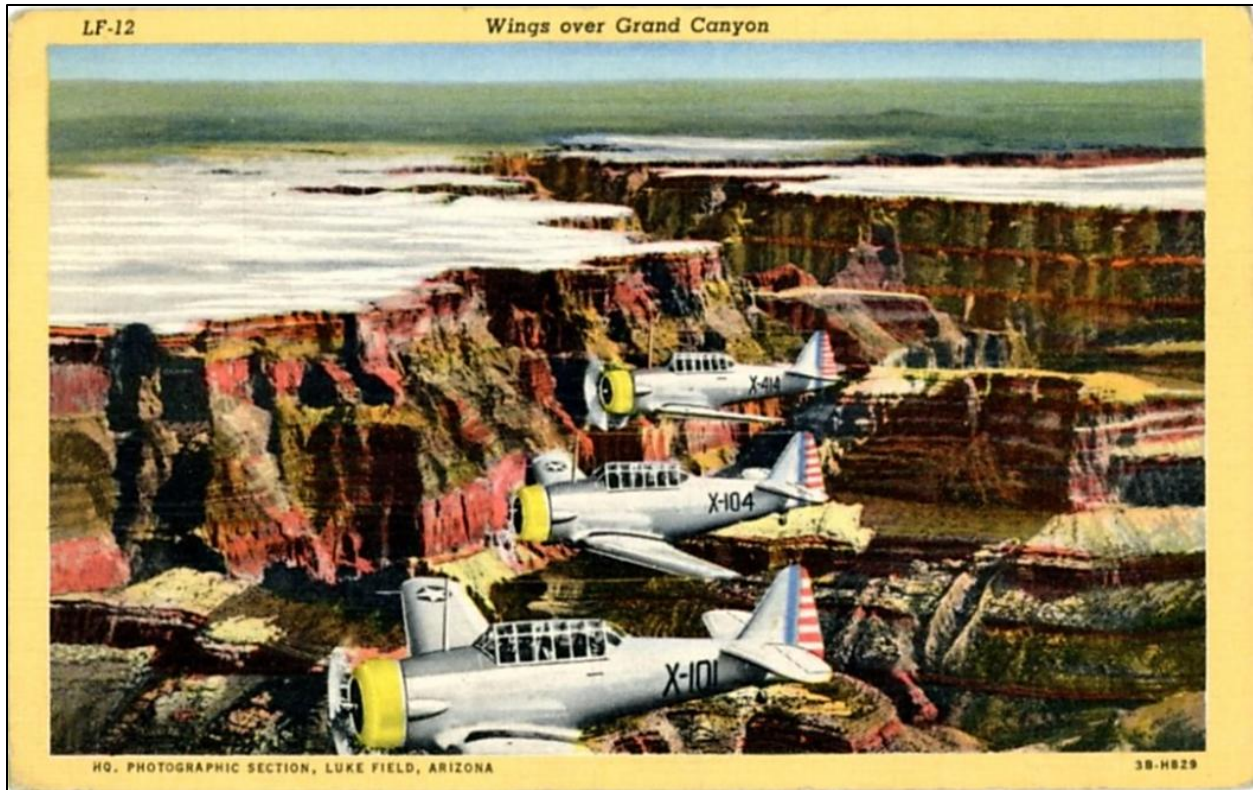
Air View of Grand Canyon, Arizona

Curt Teich & Co. G.C.-13

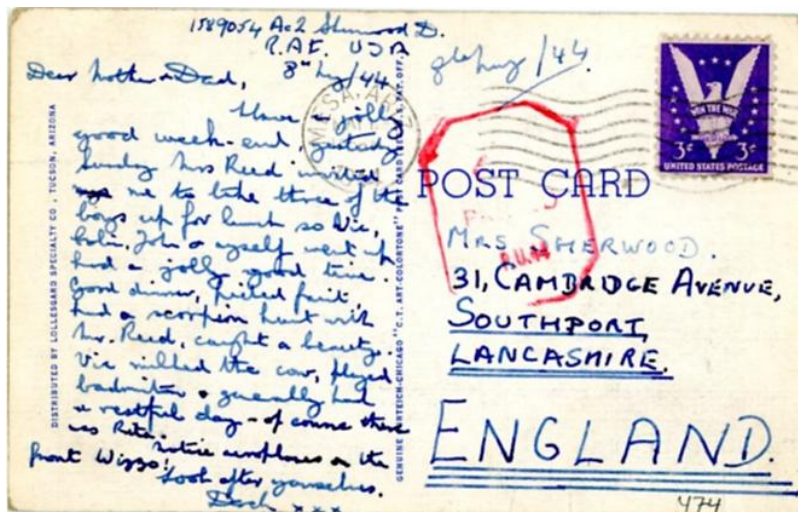
Undated (this card mailed in 1950)

“This view of Grand Canyon names the peaks within its range. Special attention is directed to Shiva Temple, the site of the camp of the Patterson Expedition of the Museum of Natural History in 1937, during which they studied the isolated wild life of the 275 acre mystery land, ‘Sky Island.’ —Photo Am. Museum of Natural History.”

POSTCARD AERIAL VIEWS



Wings over Grand Canyon. [U.S. Army Air Corps] HQ. Photographic Section, Luke Field, Arizona. Lollesgard Specialty Co., Tucson. LF-12. Genuine Curteich-Chicago "C.T. Art -Colortone" Post Card. Undated.



This card was mailed by a Royal Air Force serviceman in training in Arizona. It was postmarked May 12, 1944, in Mesa, Arizona, and was sent to his parents and possibly a child in Southport, Lancashire, England. There is on the card an indistinct censor's stamp, "passed". The aircraft are apparently two-seat North American Aviation SNJ basic trainers, which also were called Harvards by the RAF.

1589054 Ac2 Sherwood D. R.A.F. USA 8th My/44

Dear Mother & Dad, Have a jolly good week-end, yesterday Sunday Mrs Reed invited me to take three of the boys up for lunch so Nic, Colin, John & myself went up had a jolly good time. Good dinner, picked fruit, had a scorpion hunt with Mr. Reed, caught a beauty. Vic milked the cow, played badminton & generally had a restful day—of course there was Rita. Notice aeroplanes on the front Wizzo! Look after yourselves. Dad X X X



Nevada Airlines, Inc. Douglas DC-3

Copyright Mary Jayne's Railroad Specialties, Inc.

Alleghany Publishers, Covington, Va. MJ-353

Undated

"Nevada Airlines, based at Las Vegas, operated several DC-3's on both Scheduled and Charter Services during the 1970's. One of Nevada Airlines DC-3's (N163E c/n 7394, originally built as a C-53 for the U.S. Army in July of 1942) is shown in flight over the Grand Canyon. Photo from the Aviation World Collection."

POSTCARD AERIAL VIEWS



[No title.]

Petley Studios, Phoenix P98636

Plastichrome®

Undated

“Flying through the Grand Canyon, Arizona Scheduled scenic aerial tours through the fabulously colorful Grand Canyon is an unforgettable experience. The view shows the flight past Zoroaster Temple and Angel's Gate with the North rim of the canyon in the distance.”





National Park Service MD900 at O'Neill Butte

NPS public domain photo from gallery

<https://www.nps.gov/media/photo/gallery.htm?pg=1963040&id=F6F90947-155D-451F-673EC921E55364B2>

(accessed May 6, 2025)

Back Cover

Royal V. Thomas's second landing on the Tonto Plateau inside the Grand Canyon took place on August 18, 1922, carrying *Fox News* cinematographer Anthony Ugrin (*at right in photo, with camera*). Fred Harvey company photographs of this venture were published with articles in the *Santa Fe Magazine* and *Popular Mechanics Magazine* (see citations below). The true first landing, ten days earlier with Ellsworth Kolb (*see front cover*), not only was overshadowed but the Fox News landing was publicized as the first.

(National Park Service, Grand Canyon National Park, GRCA-05235)

Fox News was a newsreel firm established by William Fox that ran 1919–1930 in competition with other newsreel companies whose productions were shown in movie theaters. Ugrin's name has been consistently misspelled as Ugren and Ungren in published articles about the flight. His World War II draft registration, when he was 41, gives his name, and is signed, as **Valentine A. Ugrin** (thus he must have publicly gone by his middle name, Anthony) and was then employed by Twentieth Century Fox Studios.

C. J. Birchfield, "First Airplane Landing at Bottom of Grand Canon. Ascent from Lower Depths of Gorge Also Accomplished," *Santa Fe Magazine* (Santa Fe Railway), Vol. 16, no. 11 (October 1922), cover, frontispiece, pp. 17-20.

R. C. Folger, "Airplane Lands in Grand Cañon. Treacherous Air Currents Spectacularly Negotiated by Former Army Airman and Motion-Picture Operator—Indians Gather to Witness Feat," *Popular Mechanics Magazine*, Vol. 38, no. 6 (December 1922), cover, pp. 838-840.



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