



Best

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CALIFORNIA'S DEADLIEST WILDFIRES CHALLENGE AERIAL RESOURCES

By **Joanna Dodder Nellans**
Fire Photos by **Glen Tagami**

While the Southeastern U.S. was being inundated with record hurricane floodwaters during the fall of 2017, record-breaking wildfires were torching California's Wine Country.

More than one million acres burned this year in California. The "October Fire Siege" fanned by Diablo Winds in Northern California constituted the deadliest series of wildfires in the state's history, killing **43 people**. The infernos torched at least **8,900 structures** and **245,000 acres**, forcing the evacuation of more than **100,000 people**. As many as **11,000 firefighters** were battling **21 major blazes** in an area nearly one-third the size of Rhode Island. Insured property damage totaled more than **\$3 billion**, making for the costliest complex of wildfires in U.S. history.



of 2017



“I’ve never seen the utter devastation and destruction I saw around Santa Rosa and Napa,” said Barry Lloyd, helicopter program manager for Cal Fire (California Department of Forestry and Fire Protection). “It was absolutely stunning.” This is coming from someone who has been a helicopter pilot for 52 years and fighting fire for 44 years. He flies one of Cal Fire’s 12 Type II Hueys.

In some cases, the blazes ignited when extreme Diablo Winds knocked down power lines and trees that fell on power lines. The winds also sent firebrands sailing out in front of existing wildfires to ignite new ones.

California has the largest government aerial firefighting force in the world with 51 aircraft, Lloyd said. The state created its own initial attack force 112 years ago in recognition of its wildfire-prone terrain. This year, Lloyd had to call in plenty of private contractors to help with the unprecedented blazes. He estimates 65-70 helicopters were working the fires. “Helicopters are critical to getting water, retardant, firefighters and supplies into the rugged chaparral-choked canyons of Northern California,” he said. Dense

stands of brush that flourished and expanded after an unusually wet winter – then dried to a crisp during the hottest summer ever recorded in California – also provided unusually high levels of brittle fuels for the conflagrations.

As more and more homes are built in California’s wildland-urban interface, firefighters are able to conduct fewer and fewer prescribed burns to reduce the ferocity of chaparral blazes. There is no commercial market for chaparral, and using machinery to cut it back is often not an option because of steep terrain and cost. “It’s a difficult balance,” Lloyd said. “We go through great exposure to danger to protect these homes.”



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HELICOPTERS CRITICAL TO RESCUES, RECOVERY AS SERIES OF RECORD-BREAKING HURRICANES HIT U.S.

By **Joanna Dodder Nellans**

The 2017 Atlantic hurricane season set numerous records, and none of them were good. Most came in the one-two-three punch from Harvey, Irma, and Maria. The massive rescue efforts depended heavily on helicopter resources since hundreds of thousands of people faced widespread flooding across the Gulf Coast, Florida, and Puerto Rico.

This season was the first time in recorded history (since 1851) that two Category 4-5 hurricanes struck the U.S. mainland in the same year, and first time that three Cat 4-5 hurricanes (Harvey, Irma, and Maria) bashed the U.S. and

its territories in one year. Irma is the strongest hurricane ever recorded in the Atlantic and the longest-lasting hurricane ever recorded on the planet. This year also is the first time since 1893 that 10 consecutive Atlantic storms morphed into hurricanes.

Facing a mind-boggling 122,000 victims who needed to be rescued across 182,000 acres of flooded neighborhoods, air rescues were critical when Hurricane Harvey struck the Gulf Coast on Aug. 25, especially when it stalled and dumped a record 51 inches of torrential rain in three days.



“We picked up a lot of elderly people who may not have survived if they had to stay in the house another night,” said Sikorsky UH-60 Black Hawk helicopter pilot Mark Thomas, an air interdiction agent with U.S. Customs and Border Protection’s Air and Marine Operations. “Air operations in Houston absolutely saved lives.”

Hurricane Irma struck Florida just 16 days after Harvey made landfall. Torrential rains and storm surges forced the evacuation of more than six million people as the storm marched north across Florida, Georgia and South Carolina.

Some Caribbean islands were devastated; more than 90 percent of Barbuda’s buildings and vehicles were destroyed.

Puerto Rico suffered the brunt of Hurricane Maria when it hit there Sept. 20, making air resources paramount in transporting rescuers and supplies from the mainland. The storm knocked down almost all the island’s power lines, so it could take more than a year to restore electricity.

These mega-hurricanes tested U.S. disaster response teams perhaps more than ever before. While rescuers couldn’t stop Mother Nature, a coordinated air response helped prevent the death toll from being much worse. With 103 deaths preliminarily reported by the end of September from hurricanes Harvey, Irma, Jose and Maria, it was the 17th deadliest season on record since 1900.





Best of 2017 @Legacy

KIOWA WARRIOR TO MEMORIALIZE U.S. ARMY CAPTAIN KIMBERLY HAMPTON

By Pam Landis

Kimberly Nicole Hampton (August 18, 1976 – January 2, 2004) was a captain in the United States Army and the first female military pilot in U.S. history to be shot down and killed as a result of hostile fire.

Growing up in Easley, South Carolina, she graduated from Easley High School, where she had served as the student body president and CO of the NJROTC unit.

Hampton joined the United States Army Reserve Officers' Training Corps (ROTC) while in college. As a senior, she became only the second woman to serve as the school's ROTC battalion commander. Upon graduation, she attended flight training and the Aviation Officer Basic Course at Fort Rucker, Alabama, where she completed her training with honors. She served two years in South Korea and also in Afghanistan as part of the U.S. forces in Operation Enduring Freedom. Hampton was assigned to the 82nd Airborne Division at Fort Bragg, North Carolina, before becoming the commander of Delta Troop, 1st Squadron, 17th Cavalry Regiment prior to the unit's deployment to Iraq as part of Operation Iraqi Freedom in September 2003.

Hampton died when the OH-58D Kiowa Warrior helicopter she was flying was shot down near Fallujah, Iraq, on January 2, 2004. Captain Hampton was also the first female combat casualty in Iraq from South Carolina. Hampton's resting place is located in the cemetery section just east of the bell tower at Robinson Memorial Gardens on Powdersville Road near her hometown of Easley. She was posthumously awarded the Bronze Star, Air Medal and Purple Heart.

The Easley High School NJROTC unit named an award after her. In 2005, the Pickens County public library and the section of South Carolina Highway 88 that passes through Easley were also named in her honor. Since 2006, Presbyterian College has annually presented a scholarship to an ROTC student in Hampton's name.

Kimberly Hampton's mother, Ann Hampton, and journalist Anna Simon wrote a book about Kimberly titled *KIMBERLY'S FLIGHT: The Story of Captain Kimberly Hampton, America's First Woman Combat Pilot Killed in Battle*.





Hampton will also be honored in 2018 in her home of Pickens County by county council members who obtained a decommissioned Kiowa Warrior. The Captain Kimberly Hampton Memorial Library is currently a consideration for where to place the helicopter in her honor.

“They got a group of citizens that have come together to raise money to help offset some of the cost,” said Pickens County Council chairman Roy Costner. “The actual helicopter itself will come from the federal government. It’ll be gifted to the county.”

Councilman Ensley Feemster, a veteran, says the vote brings them one step closer to paying tribute to a soldier who gave the ultimate sacrifice. “I think it’s a wonderful way to honor her,” Feemster says. “I’m just happy we’re working on getting it done.”





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ELVIN “AL” MEYER SERVED THE HELICOPTER INDUSTRY WELL

By **Pam Landis**

Born in Bakersfield, California, on September 23, 1941, Elvin “Al” Meyer, a vice-chairman of HAI’s board of directors until 2002, passed away in early 2017 in Santa Monica, California.

Meyer was senior vice president/manager of ERA Aviation at the time of his retirement in 2004. He served in the U.S. Air Force and was honorably discharged in 1965. He began his career in aviation crop-dusting out of Shafter, California, and worked as a bush pilot in Alaska for Anchorage Helicopter Services. He left the United States about a year later and worked for National Utility Helicopters (NUH) in Singapore and Indonesia with the beginning of oil exploration in the region.

Early in 1978 Meyer returned to the U.S. and was a surveyor for the U.S. Geological Survey in the western states. To survey, he would fly a grid of 120 miles x 3 miles x 120 miles about eight to 10 times a day measuring gamma rays.

The one area that proved difficult, causing him to suffer from headaches while flying the grid, was Death Valley with its lowest point being -282 feet to its highest point of 11,000 feet.

He then assisted building heli-rigs by helicopter to drill gas wells in Borneo for Huffington Oil. In June 1980, he started working for ERA Helicopters as a line pilot out of Lake Charles, Louisiana. After six months with the company, he was promoted to director of training and later chief pilot/director of operations (1984-1990), vice-president/manager of the Gulf Coast Division (1991-2004). By this time he had received an ATP, and was the first pilot to have a full ATP in a BO-105. He was also the first non-Bell pilot to fly the Bell 412, flying the first one off the line. Al had over 9,000 hours in helicopters and over 800 hours in fixed-wing aircraft.



WHIRLY-GIRLS INTERNATIONAL CONTRIBUTES THROUGH EDUCATION

By **Pam Landis**

Jean Ross Howard Phelan founded the Whirly-Girls on April 28, 1955, in hopes of developing an organization where female pilots could share information and camaraderie regardless of country, race, religion or politics. She was one of 13 charter members representing women helicopter pilots from France, Germany, and the United States. As founder and first president of the organization, Jean encouraged the establishment of hospital heliports and the use of helicopters in emergency medical service.

Today, there are more than 1,900 registered members representing 45 countries, two territories, one crown dependency, and one special administrative region. The organization is still growing.

During the Whirly-Girls 2017-18 scholarship season, they offered 19 scholarships from 16 sponsors. The total value of the scholarships offered this season exceeds \$90,000. The



Whirly-Girl Tracy Zedeck used a scholarship to receive maintenance training at Robinson Helicopter Company.

all-volunteer board of directors has worked hard to advance women in aviation and, along with their devoted sponsors, they have built the largest scholarship program in the helicopter industry. Awards range from online educational opportunities to company sponsored turbine transition and/or re-currency training. The newest sponsor, ForeFlight, is offering two ForeFlight Pro subscriptions and in-person training in use of the software. The largest value scholarship, the Airbus Flight Training Scholarship (valued at \$14,000) provides both ground and flight training for the AS350 at the Airbus Factory School in Texas, helping a woman receive an endorsement needed to advance her career.

The Erickson's Vertical Reference/External Load Scholarship (valued at \$6,000) is set for one deserving Whirly-Girl. This scholarship helps fill the large gap that exists between the skills she gains in an intermediate level job and the additional endorsement requirements that exist in many higher-hour helicopter job postings. This training gap is also addressed with the Night Flight Concepts Night Vision Goggles Initial Pilot Qualification Scholarship (valued at \$12,000) which opens up career opportunities in many fields, including law enforcement. Additionally, the Thurn-Herr Annual

Advanced Training Scholarship (valued at \$11,000) can be applied towards any rating needed to advance to the next level of the helicopter industry.

Many of the awards this year addressed helicopter safety concerns. This includes two Robinson Safety Courses in the R22 or R44 and the R66 (combined value: \$7,500), Antipodean Aviation and Embry-Riddle's online wire and obstacle avoidance course (valued at \$220), Garmin on-site training to safely integrate equipment into flight operations (each valued at \$795), inadvertent IMC training included with the FlightSafety International Bell 206 scholarship (valued at \$10,000), and how to react in an aircraft ditching emergency at the Survival Systems USA Aircraft Ditching Course (valued at \$1,400). The Oregon Aero CRM/AMRM Instructor Training Scholarship (valued at \$2,000) helps raise the safety awareness of the entire industry by providing a Whirly-Girl with the information and practice to become an effective facilitator in the principles of crew resource management. She can then return to her company or school and disseminate those important principles to a wider audience.



Best of 2017 @Safety

PROMOTING SAFETY AMONG THE PILOT AND INSTRUCTOR RANKS

After analyzing dozens of helicopter accidents that resulted in fatalities for pilots and passengers, the U.S. Helicopter Safety Team (www.USHST.org) has uncovered five vital action items for pilots **and** six focus areas where flight instructors can improve safety in the helicopter industry.

5 Vitally Important Safety Actions for Helicopter Pilots

Take Time for Your Walkaround – The pilot in command is responsible for determining the airworthiness of the aircraft he or she is operating. An adequate preflight inspection and final walkaround is key to determining the condition of an aircraft prior to flight. In addition, post-flight inspection can help to identify issues prior to the next flight. The USHST believes that pilots would benefit from better guidance on how and why to conduct these inspections, as well as increased attention to their importance.

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Communicate Risk Issues in the Cockpit – The flight environment is often dynamic and not every contingency can be anticipated or scripted in advance. The pilot in command is ultimately responsible for the safety of a flight, however, non-flying crew and passengers can and should work with the pilot to ensure safety. When unexpected changes are encountered, it is paramount that the pilot and crewmembers/passengers try to detect the elevation of risk, communicate it to each other, and collectively work through a reasonable resolution or mitigation. The USHST believes that effective practices are needed for each stage in the process – detection, communication, and decision.

Get Solid Training for Make and Model Transitions – Transition training in the helicopter community is not uniformly applied, and this is leading to accidents because of unfamiliarity with airframe and/or equipment. The USHST believes that documentation related to helicopter transition training can be developed into a new, unified guide that would offer recommended practices and a “toolkit” to support standardized use.

Understand the Hazards of Over-the-Counter Medications – Because over-the-counter medications are readily available, pilots frequently underestimate the deleterious effects and the impairment caused by these sedating drugs. In spite of specific federal regulations and education efforts regarding flying while impaired, over-the-counter medication usage by pilots remains a factor in 10 to 13 percent of aircraft accidents. The USHST believes that the helicopter community needs an increased awareness of the potentially disastrous results of operating an aircraft while taking these medications.

Make a Safe Attitude Your Overriding Priority – Safety in the aviation world can be defined in many ways. From the reactive point of view, safety essentially means a lack of accidents, an absence of injuries, and a general environment where things don't go wrong. From the proactive point of view, this environment doesn't exist for any consistent amount of time unless certain safety-related active principles are put in place and specific safety attitudes are fostered and strengthened. Whether we are strengthening a person's safety attitude, bolstering a team's safety convictions, or nurturing an entire safety culture, focusing every member of an aviation team at every level on clear and tangible convictions needs to be a central goal.

6 Ways That Helicopter Instructors Can Save Lives



After analyzing dozens of helicopter accidents that resulted in fatalities for pilots and passengers, the U.S. Helicopter Safety Team (www.USHST.org) has uncovered six focus areas where flight instructors can improve safety in the helicopter industry. The facts show that failure in these areas has resulted in lives being lost.

Teach the Importance of Pre-Flight Risk Assessment

Flight instructors and new pilots would benefit from guidance on accepted best practices for conducting a full and comprehensive risk assessment prior to a training flight. This information would identify inherent risks and allow mitigation to be implemented and risk to be minimized. The USHST believes that standard guidelines for pre-flight risk assessments on training flights should be established and circulated widely.

Provide Competency-Based Training and Assessments

In its analysis, the USHST determined that 17 percent of fatal accidents involved pilot decision errors attributable to poor knowledge of: aircraft performance and limitations, inflight power and energy management, basic maneuvers essential to aircraft control, aircraft systems, or familiarity with the Pilot Operating Handbook. In general, the accidents stemmed from a lack of basic competency to operate the aircraft safely, effectively, and efficiently. The USHST believes that recommended practices would improve training for initial helicopter pilot applicants.

Train Pilots to Recognize Spatial Disorientation

In the USHST analysis, one out of 10 fatal accidents were linked to spatial disorientation being a cause or a contributing factor to a pilot's incapacitation. The USHST believes that fatal accidents would be reduced if available simulator technology and training scenarios on recognition and recovery from spatial disorientation could be used more widely.

Teach Threat and Error Management

While traditional decision-making models focus largely on reactive and proactive means of flight crew situation management, threat and error management uses a predictive process to eliminate threats and errors before, during, and after each flight. The USHST believes that the introduction of threat and error management practices should be incorporated into initial and recurrent helicopter training courses.

Incorporate Progressive Approaches to Training Autorotations

Experience with progressive approaches in the training of autorotation maneuvers will help pilots to avoid fatal consequences stemming from unexpected inflight problems. The USHST believes that flight instruction should include more emphasis on recommendations outlined in FAA Advisory Circular 61-140A, which contains topics such as higher entry point and lower entry point autorotations, 300-foot AGL decision checks, and turning autorotation techniques.

Improve Simulator Training for Outside-the-Envelope Conditions

Current models for simulator training are not accurate at edge-of-the-envelope and outside-the-envelope flight scenarios. This may lead to unrealistic training for maneuvers such as loss of tail rotor effectiveness, vortex ring state/settling with power, and autorotation procedures. As a result, the training may not be as effective when these situations are encountered during an actual flight. The USHST believes that improvements to simulator models can be achieved in order to address these limitations in current simulator training.

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