

# Sightseeing helicopter crashes in Hawaii decrease following FAA regulations

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An emergency rule intended to reduce the number of deaths and injuries associated with Hawaiian air tours was followed by a 47 percent reduction in sightseeing crashes, according to a new study by researchers from the Johns Hopkins Bloomberg School of Public Health's Center for Injury Research and Policy.

However, the proportion of crashes that resulted in lives lost actually increased after the rule change due to an increase in crashes that resulted from poor visibility, which tend to be exceptionally fatal. The report is published in the July issue of *Aviation, Space, and Environmental Medicine*.

The [Federal Aviation Administration](#) (FAA) issued Special Federal Aviation Regulation (SFAR) 71 in 1994 in response to a spate of crashes of helicopter sightseeing tours that year. The regulation established minimum flight altitudes and clearances from terrain, emphasized passenger safety precautions, mandated performance plans prior to each flight, and required flotation equipment or the wearing of life preservers on flights beyond the shoreline.

"Our findings indicate that the 1994 Rule was followed by a reduction of almost half in the [crash](#) rate. On the other hand, crashes that occurred as a result of low visibility—often because of rain, fog, or clouds—increased from 5 percent to 32 percent of all air tour helicopter crashes in the 14 years after the new regulation," said senior author Wren L. Haaland, a 2009 graduate of Johns Hopkins University who conducted the study as

an undergraduate research assistant with the Bloomberg School's Center for Injury Research and Policy.

"Our data suggest the FAA should reconsider the Rule's clause that established a minimum flying altitude of 1,500 feet, as we know higher altitudes are associated with more cloud cover," said Susan P. Baker, MPH, director of the study's research and professor with the Injury Center. Clouds obscuring mountain peaks and passes are particularly common in Hawaii. The Hawaii Helicopter Operators Association appealed the Rule on the basis that the 1,500-foot above-ground-level minimum flying altitude would lead to crashes due to the prevalence of clouds at or above that altitude. The appeal was rejected by the U.S. Ninth Circuit Court of Appeals.

The researcher team analyzed data collected from the National Transportation Safety Board's Aviation Accident Database, identifying 59 crashes of helicopter air tour flights in Hawaii from 1981 through 2008. Crashes in 1995 to 2008 were compared with those in 1981 to 1994. The greatest decreases occurred in crashes into the ocean, crashes not involving malfunctions, and nonfatal crashes. Aircraft malfunctions were the most common precipitating factor throughout the study period, occurring at similar frequencies pre- and post- regulations. The most common malfunction was loss of power, most often caused by improper maintenance. Forty-six tourists and 9 pilots died in 16 fatal crashes during the 28-year study period.

"The persistence of mechanical problems and malfunctions is noteworthy, since they were related to the majority of crashes and not addressed by the FAA's 1994 Rule," said Dennis F. Shanahan, MD, MPH, a co-author of the study. "This is an oversight, as many of these problems could be prevented through better mechanic training, closer FAA oversight, and increased emphasis from management on proper and thorough maintenance procedures. Helicopter tourism is popular in

other areas such as Alaska and the Grand Canyon, and every precaution should be taken to save lives."

Source: Johns Hopkins University Bloomberg School of Public Health  
([news](#) : [web](#))

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