Colorado Legislative Council Staff

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UNMANNED AIRCRAFT SYSTEM REGULATION

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This issue brief provides a brief overview of unmanned aircraft systems (UAS), related federal and state regulations, and current uses and restrictions in Colorado.

UAS Terminology

Unmanned aircraft are pilotless aircraft that are controlled wirelessly, while UAS refers to the entire system, including the pilot on the ground or the on-board computer, the data links and communication equipment, and the aircraft. Other terms for UAS include drone, unmanned aerial vehicle, and remotely piloted aircraft. The Federal Aviation Administration's (FAA) definition of UAS does not differentiate between aircraft designs, such as model airplanes or multi-rotors. FAA rules are based on the intended use of a UAS rather than its design.

Federal Regulation of U.S. Airspace

The FAA is responsible for maintaining safety in the National Airspace System (NAS), which is considered to be anything above the ground. The FAA first authorized the use of unmanned aircraft in the NAS in 1990. In addition to use by federal and military agencies, which are not required to report on UAS use in U.S. airspace, the FAA classifies UAS domestic use into three categories: model, public, and civil.

Model UAS. Model aircraft operations, which are conducted solely for hobby or recreational purposes, are not regulated by the FAA. However, the FAA may take enforcement action against operators who endanger safety in the NAS. According to the FAA, model UAS should be under 55 pounds, be flown within visual line of sight of the operator, not be flown higher than 400 feet from the ground, not interfere with manned aircraft, and operators should notify airports within five miles.[1] There are no prohibitions against using additional equipment, such as video cameras.

Public UAS. Public entities such as state government agencies, law enforcement, and universities must get a Certificate of Authorization from the FAA before operating a UAS. Public UAS operators are required to have advanced flight training. According to the FAA, it authorized 407 COAs in 2013 and 526 COAs in 2014 for public use. Common uses for UAS in this category include general UAS research, searching for missing people, fighting fires, measuring tornado wind speeds, and surveying crops.

Civil UAS. Commercial operations are authorized by the FAA on a case-by-case basis and require the pilot to be licensed and the aircraft to be certified. On February 2015, the FAA released proposed rules for small civil UAS. These regulations could be formalized in 2016.[2] Currently, the FAA has authorized two aircraft to inspect oil and gas wells in the Arctic, and issued regulatory exemptions to six aerial photo production companies.[3]

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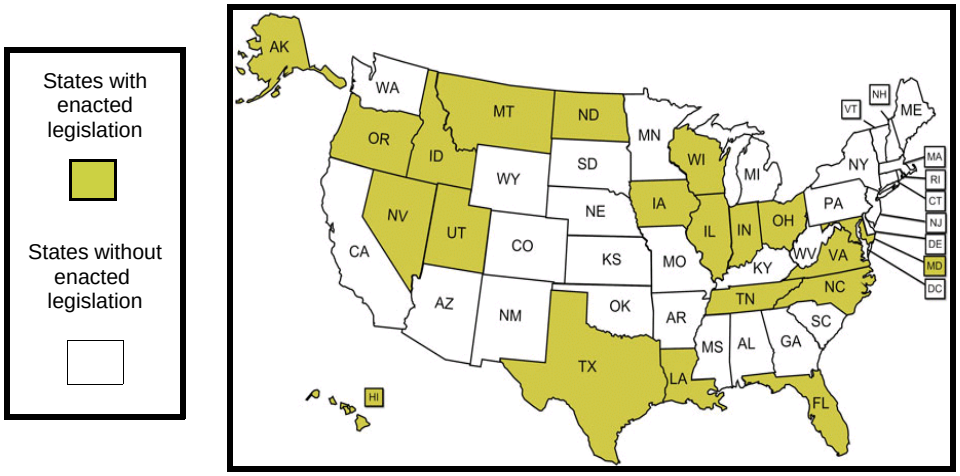
[1] 49 U.S.C. 40103 and FAA Advisory Circular 91-57.

[2] *"Operation and Certification of Small Unmanned Aircraft Systems,"* Notice of Proposed Rulemaking, 80 Fed. Reg. 9544 (February 25, 2015).

[3] FAA, "Press Release – U.S. Transportation Secretary Foxx Announces FAA Exemptions for Commercial UAS Movie and TV Production." September 25, 2014.

Figure 1. States with UAS Laws



Source: National Conference of State Legislatures

State Legislation

According to the National Conference of State Legislatures (NCSL), 20 states passed one or more laws addressing the use of UAS in 2013 and 2014, as illustrated in Figure 1. These states focused on many similar issue areas. For example, 14 states restricted the use of UAS by law enforcement agencies, with many states specifying that a search warrant is required; 7 states created a task force or study committee for UAS; and 5 states restricted the use of information obtained by UAS as evidence in court. In addition, states restricted the use of data obtained by UAS, provided for civil actions related to UAS, prohibited the use of UAS to watch a person hunt or fish, made the use of weaponized drones a crime, created agency reporting requirements of UAS activities; and expressly prohibited the use of UAS in traffic enforcement.

Restrictions on UAS in Colorado

Currently, Colorado does not have any state laws specifically pertaining to UAS. In January 2014, the Colorado Parks and Wildlife Commission passed an administrative regulation defining drone as "any contrivance invented, used or designed for navigation of, or flight in the air that is unmanned or guided remotely" and prohibiting the use of drones as a hunting aid to look for wildlife.[4]

Current UAS Use in Colorado

The Mesa County Sheriff's Office and the University of Colorado at Boulder are currently authorized by the FAA to fly UAS with certificates of authorization for public use. Additionally, CDOT reports that it has a COA pending with the FAA to use a UAS to survey geohazards near roads, such as potential rock slides.

Mesa County. The Mesa County Sheriff's Office has five active certificates that it is using to test potential uses in search and rescue missions, monitoring wildfires, and searching for criminal suspects over broad areas.[5]

The University of Colorado. The University of Colorado at Boulder currently has 19 active certificates which are used for research in multiple areas in Colorado and surrounding states. Recently, the university has used UAS to study wind speeds of severe storms.

2015 Legislation

Two bills concerning UAS have been introduced during the 2015 legislative session. Senate Bill 15-059, which would have addressed the use of UAS by law enforcement, was postponed indefinitely by the Senate Judiciary Committee. House Bill 15-1115 would expand the definitions of criminal trespass and harassment to include the use of UAS. It was heard in the House Judiciary Committee on March 3 and laid over to an undetermined date.

[4] 2 CCR 406-0 (004 (C)).

[5] Mesa County Sheriff's Office <sheriff.mesacounty.us/uav>, Accessed February 10, 2015.