Abstract

Drones are unmanned aerial vehicles that are remotely controlled. They range in size from under one pound to several hundred pounds (Perlman 2016). This thesis addresses drones classified for consumer use, which the Federal Aviation Administration (FAA) defines as drones between 0.55 to 55 lbs. (FAA 2016e). Since consumer drones have been available for purchase in greater numbers than ever before, legislation related to no-fly zones needs to be centrally organized (Perlman 2016). This can be done through the creation of a geodatabase and web-GIS map, which will allow for visualization of drone use areas. The study area for this thesis is the state of Maryland, which was chosen because it contains every type of FAA no-fly zone and has not passed any drone use sub-national rules; this allows for the current FAA regulations to be studied and improvements reccommended where necessary. This web-GIS map will allow state government policymakers, drone hobbyists, and other members of the public to see where it is appropriate to use drones in Maryland. Visualizing and making drone use data universally available will reduce accidental drone trespassing and will guide users to where drone fly-zones areas are located. To achieve this goal, a geodatabase was designed with five feature classes to show the required data and steps necessary to catalogue and display drone use data properly. A web-GIS map was then constructed that allows users to differentiate between types of fly zones and obtain details regarding the permissibility of drone flight in these zones. This geodatabase, coupled with the web-GIS map of appropriate and inappropriate drone use fly-zones, provides an effective model for other states to use to create their own drone use maps.