Public Safety sUAS Commercial Pilot Program

Jason Warzinik, GISP & FAA Remote Pilot
Missouri Task Force 1
Technical Information Specialist
Primary Missions

- Boone Fire Protection District / Mo Task Force 1
  - Urban Search & Rescue*
  - Swiftwater Rescue*
  - Helicopter Search & Rescue*
  - Situation Assessment Team ➔ sUAS, GPS, & GIS

- Boone County
  - Project Specific 2D & 3D Imagery and Topo
  - Disaster Planning and Response
  - Crime & Accident Scene Reconstruction, Crowd Monitoring, Search & Rescue, and SWAT
  - Real Estate and Personal Property Tax Assessment

- Boone Electric Cooperative
  - Asset Inspections
  - Vegetation Management
sUAS GIS Response Vehicle

Hardware
- Honda EU3000iS Generator & UPS Power
- DesignJet T120 24” Plotter
- LaserJet Multifunction 8.5”x11” Printer
- CradlePoint (Wifi/Satellite/Cell/LAN) Internet Access
- Mavic Pro sUAS (x4)
- iPad Mini Tablets (x12)
- Icom IC-A6 FAA Communications Radio (x2)
- Garmin GPSMAP 64st Handheld GPS (x25)
- GIS Server/Workstation (dual monitors)
- GIS Mobile Laptop
- 37” HDTV with connected MicroPC
- Tailgate Shelter Canopy
- Fire extinguisher (x4)

GIS Software
- Drone2Map (x2)
- ArcGIS Desktop Standard (x2)
- Collector for ArcGIS
- Workforce for ArcGIS
- Portal for ArcGIS
- ArcGIS Server Workgroup

Base Data:
CONUS NAIP Imagery (9Tb)
Worldwide Open Street Map Linework
Testing Remote Amazon AWS Processing

https://bcfpdgis.org
Remote Pilot Test Prep

METAR: KCOU 011954Z 01007KT 10SM CLR 25/12 A3007 RMK AO2 SLP175 T02500122

AREAS ON THE TESTS
- Applicable regulations, limitations, and flight operation
- Airspace classification, operating requirements, and flight restrictions affecting small unmanned aircraft operation
- Aviation weather sources and effects of weather on small unmanned aircraft performance
- Small unmanned aircraft loading
- Emergency procedures
- Crew resource management
- Radio communication procedures
- Determining the performance of small unmanned aircraft
- Physiological effects of drugs and alcohol
- Aeronautical decision-making and judgment
- Airport operations
- Maintenance and preflight inspection procedures
3D Triangle Mesh from ~34,000,000 Colorized Point LAS Cloud
sUAS Go-Kit

- FAA Remote Pilot License
- Misc Hardware: Sun-hood, Tablet & Mount, cables, SD Cards, Laptop, sUAS, and Controller
- Flight Checklists and Forms
- Citizen Alert Signage
- Fire Extinguisher
- GNSS for ground control
- Bear Spray?
Crime Scene

- Hasty Wide Area Search & Ortho
Asset Inventory/Inspections

- Concrete Pavement Panels
Asset Inventory/Inspections

- Utility Poles and Towers

- 2D WebMap
  - Link

- 3D WebMap
  - Link
sUAS GIS Response Vehicle

Hardware

- Honda EU3000iS Generator & UPS Power
- DesignJet T120 24” Plotter
- LaserJet Multifunction 8.5”x11” Printer
- CradlePoint (Wifi/Satellite/Cell/LAN) Internet Access
- Mavic Pro sUAS (x4)
- iPad Mini Tablets (x12)
- Icom IC-A6 FAA Communications Radio (x2)
- Garmin GPSMAP 64st Handheld GPS (x25)
- GIS Server/Workstation (dual monitors)
- GIS Mobile Laptop
- 37” HDTV with MicroPC - Map Viewer
- Tailgate Shelter Canopy
- Fire extinguisher (x4)

GIS Software

- Drone2Map (x2)
- ArcGIS Desktop Standard (x2)
- Collector for ArcGIS
- Portal for ArcGIS
- ArcGIS Server Workgroup

https://bcfpdgis.org
Questions?

Jason Warzinik, GISP
Boone County GIS Manager
jwarzinik@boonecountymo.org